

SEARCH REQUEST FORM

Access DB# 114021

Scientific and Technical Information Center

Requester's Full Name: Mike Miller Examiner #: 69404 Date: 2/9/04
 Art Unit: 1654 Phone Number 30 8-4230 Serial Number: 9/786/659
 Mail Box and Bldg/Room Location: 3103 Results Format Preferred (circle): PAPER DISK E-MAIL
3D11

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: GRF Analogs with increased Biological Potency
 Inventors (please provide full names): Denis Gravel, Abdelkrim Habi, Paul Brazeau
 Earliest Priority Filing Date: 9/7/99

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*please search compound
 on all relevant
 databases.
 Rush*

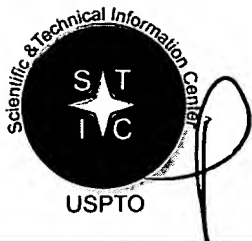
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*Approved
 D. Hutzell*

STAFF USE ONLY

Searcher: Jarrell Delaval Type of Search _____ Vendors and cost where applicable
 Searcher Phone #: _____ NA Sequence (#) _____ STN ✓ 176
 Searcher Location: _____ AA Sequence (#) ✓ Dialog _____
 Date Searcher Picked Up: 2/11/04 Structure (#) _____ Questel/Orbit _____
 Date Completed: 2/11/04 Bibliographic _____ Dr. Link _____
 Searcher Prep & Review Time: 120 Litigation _____ Lexis/Nexis _____
 Clerical Prep Time: _____ Fulltext _____ Sequence Systems ✓
 Online Time: 3:40 Patent Family _____ WWW/Internet _____
 Other _____ Other (specify) _____

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STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 114021

TO: Michael Meller
Location: REM 3C03
Art Unit: 1654
Wednesday, February 11, 2004

3D11

Case Serial Number: 09/786639

From: Noble Jarrell
Location: Biotech-Chem Library
Rem 1B71
Phone: 272-2556

Noble.jarrell@uspto.gov

Search Notes

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: February 11, 2004, 11:42:58 ; Search time 21 Seconds
(without alignments)
201.496 Million cell updates/sec

Title: 09-786639

Perfect score: 215

Sequence: 1 yadalfenyrkylvglaar.....dimarqgsendergararl 44

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	215	100.0	108	1 RHHUS	somatoliberin prec
2	202	94.0	44	1 RHFG	somatoliberin - pi
3	196	91.2	44	1 RHOS	somatoliberin - bo
4	150	69.8	104	2 A32731	somatoliberin prec
5	116.5	54.2	103	2 A41410	somatoliberin prec
6	92	42.8	173	2 S34767	neuropeptides prec
7	85	39.5	145	2 A60038	vasoactive intesti
8	85	39.5	170	1 VRHU	vasoactive intesti
9	84	39.1	175	2 A37786	vasoactive intesti
10	82	38.1	170	1 VRRT	pituitary adenylat
11	82	38.1	170	2 A60037	vasoactive intesti
12	81	37.7	55	1 VRGP	vasoactive intesti
13	78	36.3	55	1 VRBO	vasoactive intesti
14	78	36.3	55	1 VRSH	vasoactive intesti
15	74	34.4	55	1 VRSH	vasoactive intesti
16	74	34.4	58	1 VRPG	vasoactive intesti
17	74	34.4	176	2 A34044	pituitary adenylat
18	71	33.0	176	2 I64638	pituitary adenylat
19	70	32.6	28	2 A38232	vasoactive intesti
20	66	30.7	195	2 I50456	pituitary adenylat
21	63.5	29.3	35	1 VRCH	vasoactive intesti
22	63	29.3	35	1 HMGHD	vasoactive intesti
23	61	28.4	38	1 HMGHS	vasoactive intesti
24	60.5	28.1	537	2 E96606	extendin-2 - Gila m
25	59.5	27.7	178	2 I51058	glucagon I precurs
26	59.5	27.7	178	2 I51057	glucagon II precur
27	59	27.4	27	1 SECH	secretin - chicken
28	59	27.4	28	2 B60071	vasoactive intesti
29	59	27.4	28	2 A60304	vasoactive intesti

30	59	27.4	1610	2 A46227	voltage-dependent
31	59	27.4	1646	2 JH0422	voltage-dependent
32	59	27.4	2161	2 JH0564	calcium channel a1
33	59	27.4	2181	2 A38198	calcium channel a1
34	59	27.4	2203	2 T42742	voltage-dependent
35	57	26.5	28	2 A60303	vasoactive intesti
36	56	26.0	487	2 T50884	chlorophyllide red
37	55	25.6	38	2 A49165	pituitary adenylat
38	55	25.6	1826	2 D72120	excinnuclease ABC
39	55	25.6	1826	2 H86302	excinnuclease ABC
40	54	25.1	25	2 J00361	excinnuclease ABC
41	54	25.1	433	2 D75435	probable hemolysin
42	53.5	24.9	314	2 D75435	aspartate carbamoy
43	53.5	24.9	786	2 T39585	ubiquitin protein
44	53	24.7	38	2 A61070	pituitary adenylat
45	53	24.7	151	1 GCCH	glucagon precursor

ALIGNMENTS

RESULT 1

RHHUS somatoliberin precursor [validated] - human

N:Alternate names: GRF; growth hormone-releasing factor; somatotocinin

C:Species: Homo sapiens (man)

C:Date: 17-Dec-1982 #sequence revision 19-Feb-1984 #text change 08-Dec-2000

C:Accession: A21902; A93959; B93959; A93994; A94269; J37434; J37435; A01552

R:Mayo, K.B.; Cerelli, G.M.; Lebo, R.V.; Bruce, B.D.; Rosenfeld, M.G.; Evans, R.M.

Proc. Natl. Acad. Sci. U.S.A. 82, 63-67, 1985

A:Title: Gene encoding human growth hormone-releasing factor precursor: structure, seque

A:Reference number: A21902; MUID:8511317; PMID:3918305

A:Accession: A21902

A:Molecule type: DNA

A:Residues: 1-108 <MAV>

A:Cross-references: GB:L00134

R:Gubler, U.; Monahan, J.J.; Lomedico, P.T.; Bhact, R.S.; Collier, K.J.; Hoffman, B.J.;

Proc. Natl. Acad. Sci. U.S.A. 80, 4311-4314, 1983

A:Title: Cloning and sequence analysis of cDNA for the precursor of human growth hormone

A:Reference number: A93959; MUID:8527612; PMID:6152430

A:Accession: A93959

A:Molecule type: mRNA

A:Residues: 1-108 <GUB>

A:Cross-references: GB:L00137; GB:K00646; NID:9337130; PIDN:AAA52608.1; PID:9337132

A:Accession: B93959

A:Molecule type: mRNA

A:Residues: 1-102;104-108 <GU2>

A:Cross-references: GB:L00137; GB:K00645; NID:9337130; PIDN:AAA52609.1; PID:9337133

A>Note: alternative splicing produces two somatoliberin precursors

R:ling, N.; Esch, F.; Bohlen, P.; Brazeau, P.; Wehrenberg, W.B.; Guillemin, R.

Proc. Natl. Acad. Sci. U.S.A. 81, 4302-4306, 1984

A:Title: Isolation, primary structure, and synthesis of human hypothalamic somatotocinin:

A:Reference number: A93994; MUID:84272626; PMID:6431406

A:Accession: A93994

A:Molecule type: protein

A:Residues: 32-75 <LIN>

A:Experimental source: Hypothalamus

R:Guillemin, R.; Brazeau, P.; Bohlen, P.; Esch, F.; Ling, N.; Wehrenberg, W.B.

Science 218, 585-587, 1982

A:Title: Growth hormone-releasing factor from a human pancreatic tumor that caused acrom

A:Reference number: A94269; MUID:83016666; PMID:6812220

A:Accession: A94269

A:Molecule type: protein

A:Residues: 32-75 <GUI>

R:Mayo, K.B.; Vale, W.; Rivier, J.; Rosenfeld, M.G.; Evans, R.M.

Nature 306, 86-88, 1983

A:Title: Expression-cloning and sequence of a cDNA encoding human growth hormone-releas

A:Reference number: J37434; MUID:84038813; PMID:6415488

A:Accession: J37434

A:Molecule type: mRNA

A:Statute: translated from GB/EMBL/DBJ

A:Residues: 6-91,'D','93-101 <RES>

A:Cross-references: EMBL:X00094; NID:931901; PIDN:CAA24955.1; PID:91335088

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A:Accession: I37435
A:Status: translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 32-75 <RE2>
C:Cross-references: EMBL:X00094; NID:g31901; PIDN:CAA24956.1; PID:g1335089
C:Comment: The amino-terminal residue of somatoliberin is essential for activity.
C:Keywords: Both natural and synthetic somatoliberins stimulate the secretion of only som
C:Genetics:
A:Gene: GDB:GHRH; GHRF
A:Cross-references: GDB:119270; OMIM:139190
A:Map position: 20q11.2-20q11.2
A:Introns: 28/2; 63/2; 103/2
C:Superfamily: glucagon
C:Keywords: alternative splicing; amidated carboxyl end; duplication; hormone
F:1-108/Product: somatoliberin precursor, splice form 1 #status predicted <SP1>
F:1-102,104-108/Product: somatoliberin precursor, splice form 2 #status predicted <SP2>
F:1-20/Domin: signal sequence #status predicted <SP>
F:21-31/Domin: propeptide #status predicted <PRP>
F:32-75/Product: somatoliberin #status experimental <SLB>
F:76-108/Domin: carboxyl-terminal propeptide #status predicted <CTP>
F:75/Modified site: amidated carboxyl end (Leu) (amide in mature form from following gly

Query Match          100.0%; Score 215; DB 1; Length 108;
Best Local Similarity 100.0%; Pred. No. 1.3e-20;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
    |||||
Db 32 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 75

RESULT 2
RHRG
somatoliberin - pig
N:Alternate names: growth hormone-releasing factor
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 21-Nov-1997
R:Bohlen, P.; Esch, F.; Brazeau, P.; Ling, N.; Guillemin, R.
Biochem. Biophys. Res. Commun. 116, 726-734, 1983
A:Title: Isolation and characterization of the porcine hypothalamic growth hormone relea
A:Reference number: A01553; MUID:84079886; PMID:6418166
A:Accession: A01553
A:Molecule type: protein
A:Residues: 1-44 <BOH>
C:Comment: The carboxyl-amidated somatoliberin is twice as active as that having a free
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; duplication; hypothalamus
F:44/Modified site: amidated carboxyl end (Leu) #status experimental

Query Match          94.0%; Score 202; DB 1; Length 44;
Best Local Similarity 93.2%; Pred. No. 2.3e-19;
Matches 41; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
    |||||
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44

RESULT 3
RHBOS
somatoliberin - bovine
N:Alternate names: growth hormone-releasing factor
C:Species: Bos primigenius taurus (cattle)
C:Date: 28-Aug-1985 #sequence_revision 28-Aug-1985 #text_change 21-Nov-1997
C:Accession: A01554
R:Esch, F.; Bohlen, P.; Ling, N.; Brazeau, P.; Guillemin, R.
Biochem. Biophys. Res. Commun. 117, 772-779, 1983
A:Title: Isolation and characterization of the bovine hypothalamic growth hormone releas
A:Reference number: A01554; MUID:84127993; PMID:6421287
A:Accession: A01554
A:Molecule type: protein

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A:Residues: 1-44 <ESC>
C:Comment: This protein was isolated from hypothalamus.
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; duplication; hypothalamus
F:44/Modified site: amidated carboxyl end (Leu) #status experimental

Query Match          91.2%; Score 196; DB 1; Length 44;
Best Local Similarity 88.6%; Pred. No. 1.4e-18;
Matches 39; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
    |||||
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44

RESULT 4
A32731
somatoliberin precursor - rat
N:Alternate names: growth hormone-releasing hormone
C:Species: Rattus norvegicus (Norway rat)
C:Date: 13-Jul-1990 #sequence_revision 13-Jul-1990 #text_change 16-Jul-1999
C:Accession: A32731; A41366; T67421
R:Mayo, K.E.; Cerelli, G.M.; Rosenfeld, M.G.; Evans, R.M.
Nature 314, 464-467, 1985
A:Title: Characterization of cDNA and genomic clones encoding the precursor to rat hypot
A:Reference number: A32731; MUID:85163768; PMID:3920534
A:Accession: A32731
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-104 <MAY>
A:Cross-references: GB:X02320
R:Gonzalez-Crespo, S.; Boronati, A.
Proc. Natl. Acad. Sci. U.S.A. 88, 8749-8753, 1991
A:Title: Expression of the rat growth hormone-releasing hormone gene in placenta is dire
A:Reference number: A41366; MUID:92020929; PMID:1924334
A:Accession: A41366
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-104 <GON>
A:Cross-references: GB:M73486; NID:g204311; PIDN:AAA41220.1; PID:g204312
R:Strivastava, C.H.; Monte, B.S.; Rothrock, J.K.; Peredo, M.U.; Pescovitz, O.H.
Endocrinology 136, 1502-1508, 1995
A:Title: Presence of a spermatogenic-specific promoter in the rat growth hormone-releas
A:Reference number: I53290; MUID:95203210; PMID:7895659
A:Accession: I67421
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-104 <RES>
A:Cross-references: EMBL:U10156; NID:g498584; PIDN:AAC52184.1; PID:g498585
C:Genetics:
A:Gene: GHRH
C:Superfamily: glucagon
C:Keywords: duplication

Query Match          69.8%; Score 150; DB 2; Length 104;
Best Local Similarity 70.7%; Pred. No. 3e-12;
Matches 29; Conservative 8; Mismatches 4; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNOERGAR 41
    |||||
Db 31 HADAIFTSYRRILIGQLYARKLLHEIMNRQGERNOERGSR 71

RESULT 5
A41410
somatoliberin precursor - mouse
N:Alternate names: growth hormone-releasing hormone precursor
C:Species: Mus musculus (house mouse)
C:Date: 03-Apr-1992 #sequence_revision 03-Apr-1992 #text_change 16-Jul-1999
C:Accession: A41410
R:Frohman, M.A.; Downs, T.R.; Chomczynski, P.; Frohman, L.A.
Mol. Endocrinol. 3, 1529-1536, 1989
A:Title: Cloning and characterization of mouse growth hormone-releasing hormone (GRH) co

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A:Reference number: A41410; MUID:90114154; PMID:2481813
 A:Accession: A41410
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-103 <PRO>
 A:Cross-references: GB:M31658; NID:9193635; PIDN:AAA7739.1; PID:9309276
 C:Superfamily: glucagon
 C:Keywords: duplication

Query Match 54.2%; Score 116.5; DB 2; Length 103;
 Best Local Similarity 61.0%; Pred. No. 6.3e-08;
 Matches 25; Conservative 8; Mismatches 7; Indels 1; Gaps 1;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOEGAR 41
 Db 31 HVDALFTNYSRKLLSQLRARKVLIQIDIMNK-QGERIQEGRAR 70

RESULT 6
 S34767
 neuropeptides precursor [similarity] - sockeye salmon
 N:Contains: growth hormone-releasing hormone; pituitary adenylate cyclase-activating pol
 C:Species: Oncorhynchus nerka (sockeye salmon)
 C:Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 08-Dec-2000
 C:Accession: S34767; S34766
 R:Parker, D.B.; Coe, I.R.; Dixon, G.H.; Sherwood, N.M.
 Eur. J. Biochem. 215, 439-448, 1993
 A>Title: Two salmon neuropeptides encoded by one brain cDNA are structurally related to
 A:Reference number: S34766; MUID:93345532; PMID:8344311
 A:Accession: S34767
 A:Molecule type: mRNA
 A:Residues: 1-173 <PAR1>
 A:Cross-references: EMBL:X73233; NID:9396194; PIN:CA51705.1; PID:9396195
 A:Experimental source: clones SS/PCR 4 and SS/RACE 2
 A:Accession: S34766
 A:Molecule type: mRNA
 A:Residues: 1-21, 'S', '23-60, 'P', '62-77, 'G', '79-121, 'T', '123-164, 'N', '166-170, 'G', '172-173 <PAR
 A:Cross-references: EMBL:X73233; NID:9396194; PIN:CA51705.1; PID:9396195
 A:Experimental source: clones SS/PCR 5 and SS/RACE 7
 A>Note: The GenBank entry ONNEUR, release 117.0, has ambiguous nucleotides for the posit
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication; neuropeptide
 F:1-21/Domains: signal sequence #status predicted <SIG>
 F:82-126/Product: growth hormone-releasing hormone #status predicted <GHR>
 F:129-166/Product: pituitary adenylate cyclase-activating polypeptide #status predicted
 F:166/Modified site: amidated carboxyl end (Lys) (In mature form from following glycine)

Query Match 42.8%; Score 92; DB 2; Length 173;
 Best Local Similarity 53.1%; Pred. No. 0.00016;
 Matches 17; Conservative 7; Mismatches 8; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROG 32
 Db 82 HADGFMNKA YRKVLGQLSARKYLHSLMAKRVG 113

RESULT 7
 A60038
 vasoactive intestinal peptide precursor - crab-eating macaque (fragment)
 C:Species: Macaca fascicularis (crab-eating macaque)
 C:Date: 03-Mar-1993 #sequence_revision 03-Mar-1993 #text_change 20-Mar-1998
 C:Accession: A60038
 R:Benson, D.L.; Isaacson, P.J.; Jones, E.G.
 Brain Res. Mol. Brain Res. 9, 169-174, 1991
 A>Title: In situ hybridization reveals VIP precursor mRNA-containing neurons in monkey a
 A:Reference number: A60038; MUID:91203476; PMID:1850073
 A:Accession: A60038
 A:Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-145 <BEN>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication; hormone; intestine; neuropeptide; vasod

Query Match 39.5%; Score 85; DB 2; Length 145;
 Best Local Similarity 40.5%; Pred. No. 0.0011;
 Matches 15; Conservative 11; Mismatches 11; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOE 37
 Db 56 HADGVFTSDFSKLLGQLSARKYLESLMGKRVSSNISE 92

RESULT 8
 VRHU
 vasoactive intestinal peptide precursor [validated] - human
 N:Alternate names: VIP precursor
 N:Contains: peptide histidine-methionine (PHM-27); peptide histidine-valine (PHV-42); va
 C:Species: Homo sapiens (man)
 C:Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 08-Dec-2000
 C:Accession: A23296; A93113; A60205; A26361; A27418; JH0618; I51955; I56494; A01
 R:Tsukada, T.; Horovitch, S.J.; Montminy, M.R.; Mandel, G.; Goodman, R.H.
 DNA 4, 293-300, 1985
 A>Title: Structure of the human vasoactive intestinal polypeptide gene.
 A:Reference number: A90952; MUID:86004065; PMID:3899557
 A:Accession: A23296
 A:Molecule type: DNA
 A:Residues: 1-170 <TSU>
 A:Cross-references: GB:M11553; NID:9340243; PIDN:AAA61284.1; PID:9340246
 A>Note: the authors translated the codon GAA for residue 48 as Gln
 R:Ritch, N.; Obara, K.; Yanaihara, N.; Okamoto, H.
 Nature 304, 547-549, 1983
 A>Title: Human preprovasoactive intestinal polypeptide contains a novel PHI-27-like pept
 A:Reference number: A93113; MUID:83271523; PMID:6571696
 A:Accession: A93113
 A:Molecule type: mRNA
 A:Residues: 1-170 <ITO>
 A:Cross-references: GB:L00157; GB:J00320; NID:9340277; PIDN:AAA61289.1; PID:9340280
 R:Gozes, I.; Gilladi, E.; Shani, Y.
 J. Neurochem. 48, 1136-1141, 1987
 A>Title: Vasoactive intestinal peptide gene: putative mechanism of information storage a
 A:Reference number: A60205; MUID:87140054; PMID:2434617
 A:Accession: A60205
 A:Molecule type: mRNA
 A:Residues: 78-155 <QO2>
 A:Cross-references: GB:M1645; GB:M32162; NID:9340250; PIDN:AAA61285.1; PID:9553809
 A>Note: this abundant mRNA from a human brain tumor line contains an unspliced intron
 R:Rinder, S.; Barthelm, T.; Norberg, A.; Persson, H.; Schalling, M.; Hofkelt, T.; Magnus
 Proc. Natl. Acad. Sci. U.S.A. 84, 605-609, 1987
 A>Title: Structure and expression of the gene encoding the vasoactive intestinal peptide
 A:Reference number: A26361; MUID:87092456; PMID:3025882
 A:Accession: A26361
 A:Molecule type: DNA
 A:Residues: 1-115, 'L', '117-135, 'G', '137-170 <LIN>
 A:Cross-references: GB:M14623; NID:9340271; PIDN:AAA61288.1; PID:9340273
 A>Note: the authors translated the codon TTA for residue 116 as Ser and GGC for residue
 R:Yiangou, Y.; Di Marzo, V.; Spokes, R.A.; Pantlo, M.; Morris, H.R.; Bloom, S.R.
 J. Biol. Chem. 262, 14010-14013, 1987
 A>Title: Isolation, characterization, and pharmacological actions of peptide histidine v
 A:Reference number: A27419; MUID:88007645; PMID:3654650
 A:Accession: A27419
 A:Molecule type: protein
 A:Residues: 81-122 <YIA>
 R:Kitamura, K.; Kangawa, K.; Kawamoto, M.; Ichiki, Y.; Matsuo, H.; Eto, T.
 Biochem. Biophys. Res. Commun. 185, 134-141, 1992
 A>Title: Isolation and characterization of peptides which act on rat platelets, from a pi
 A:Reference number: JH0618; MUID:92287083; PMID:1338039
 A:Accession: JH0618
 A:Molecule type: protein
 A:Residues: 125-152 <KIT>
 A:Experimental source: pheochromocytoma
 R:Yamagami, T.; Ohnawa, K.; Nishizawa, M.; Inoue, C.; Gotoh, E.; Yanaihara, N.; Yamamoto
 Ann. N.Y. Acad. Sci. 527, 87-102, 1988
 A>Title: Complete nucleotide sequence of human vasoactive intestinal peptide/PHM-27 gene
 A:Reference number: I51955; MUID:88267775; PMID:2839091
 A:Accession: I51955
 A:Status: translated from GB/EMBL/DBJ

A:Molecule type: DNA
 A:Residues: 1-170 <RES>
 A:Cross-references: GB:M33027; NID:G340253; PIDN:AAA69515.1; PID:G340254
 R:Gozes, I.; Gliadi, E.; Shani, Y.
 J.Neurochem. 47, 1136-1141, 1987
 A:Title: Vasoactive intestinal peptide gene: Putative mechanism of information storage
 A:Reference number: 156494
 A:Accession: 156494
 A:Molecule type: DNA
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Residues: 78-155 <RES>
 A:Cross-references: GB:M32162; NID:G340250; PIDN:AAA61285.1; PID:G553809
 R:Bloom, S.R.; Christofides, N.D.; Delamater, J.; Buell, G.; Kawashima, E.; Polak, J.M.
 Lancet 2, 1163-1165, 1983
 A:Title: Diarrhea in VIPoma patients associated with cosecretion of a second active pep
 A:Reference number: 156988; PMID:84066682; PMID:6139527
 A:Accession: 156988
 A:Molecule type: preliminary; translated from GB/EMBL/DBJ
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 50-170 <RS3>
 A:Cross-references: GB:M54930; NID:G340247; PIDN:AAA63268.1; PID:G340248
 C:Genetics:
 A:Gene: GDB:VIP
 A:Cross-references: GDB:120490; OMIM:192320
 A:Map position: 6q26-q27
 A:Introns: 36/2; 77/2; 156/2
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication; glycoprotein; hormone; intestine; neuro
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:81-122/Product: peptide histidine-valine (PHV-42) #status experimental <PHV>
 F:81-107/Product: peptide histidine-melitonine (PHM-27) #status experimental <PHM>
 F:125-152/Product: vasoactive intestinal peptide #status experimental <VIP>
 F:168-133/Binding site: carboxylate (Asn) (covalent) #status predicted
 F:107/Modified site: amidated carboxyl end (Met) (amide in mature form from following gl
 F:152/Modified site: amidated carboxyl end (Asn) (amide in mature form from following gl

Query Match 39.1%; Score 85; DB 1; Length 170;
 Best Local Similarity 40.5%; Pred. No. 0.0013;
 Matches 15; Conservative 11; Mismatches 11; Indels 0; Gaps 0;

Db 1 YADAFNYSRYKVLGQLSARKLLQDMSRQGES 37
 81 HADGVFTSDFSKLQLQLSAKYLSLMGRKVSNS 117

RESULT 9
 A37786
 pituitary adenylate cyclase-activating polypeptide precursor - rat
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 28-Jun-1991 #sequence_revision 28-Jun-1991 #text_change 20-Jun-2000
 C:Accession: A37786; S58467
 R:Ogi, K.; Kimura, C.; Onda, H.; Arimura, A.; Fujino, M.
 Biochem. Biophys. Res. Commun. 173, 1271-1279, 1990
 A:Title: Molecular cloning and characterization of cDNA for the precursor of rat pituita
 A:Reference number: A37786; PMID:91097560; PMID:2268329
 A:Accession: A37786
 A:Molecule type: preliminary
 A:Status: preliminary
 A:Residues: 1-175 <OGI>
 A:Cross-references: GB:M63006; NID:G205957; PIDN:AAA41791.1; PID:G205958
 R:Hutley, J.D.; Gardiner, J.V.; Jones, P.M.; Bloom, S.R.
 Endocrinology 136, 550-557, 1995
 A:Title: Cloning and molecular characterization of complementary deoxyribonucleic acid c
 in the rat testis.
 A:Reference number: S58467; PMID:95136947; PMID:7835287
 A:Accession: S58467
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-6, 'R', 8-25, 'L', 27-175 <HUR>
 A:Cross-references: EMBL:X80290; NID:G695710; PIDN:CAA56564.1; PID:G695711
 A:Note: the authors translated the codon CTT for residue 26 as Pro
 A:Note: in Genbank entry RRPITACA, release 113.0, the source is designated as Rattus rat
 C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; duplication; hypothalamus; neuropeptide
 F:131-168/Product: pituitary adenylate cyclase-activating polypeptide 38 #status experime
 F:131-157/Product: pituitary adenylate cyclase-activating polypeptide 27 #status experime
 F:157/Modified site: amidated carboxyl end (Ileu) (amide in mature form from following gl
 F:168/Modified site: amidated carboxyl end (Lys) (amide in mature form from following gl

Query Match 39.1%; Score 84; DB 2; Length 175;
 Best Local Similarity 54.5%; Pred. No. 0.0017;
 Matches 18; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

Db 2 ADAFTNYSRYKVLGQLSARKLLQDMSRQGES 34
 83 AHEITNEAYRKLQDLSARKYLQSVARGMEN 115

RESULT 10
 VART
 vasoactive intestinal peptide precursor - rat
 N:Contains: peptide histidine-isoleucine (PHI-27); vasoactive intestinal peptide (VIP)
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 28-Feb-1986 #sequence_revision 30-Jun-1993 #text_change 18-Jun-1999
 C:Accession: A60053; B60037; A01548; A28102; A60586; A60587; S09691
 R:Gliadi, E.; Shani, Y.; Gozes, I.
 Brain Res. Mol. Brain Res. 7, 261-267, 1990
 A:Title: The complete structure of the rat VIP gene.
 A:Reference number: A60053; PMID:90244869; PMID:2159586
 A:Accession: A60053
 A:Molecule type: DNA
 A:Residues: 1-170 <GLU>
 A:Note: the authors translated the codon GAG for residue 67 as Gln
 R:Rampey, E.D.; Rosen, K.M.; Villa-Komaroff, L.
 Brain Res. Mol. Brain Res. 9, 217-231, 1991
 A:Title: Characterization of the gene and messages for vasoactive intestinal polypeptide
 A:Reference number: A60037; PMID:91233388; PMID:1851524
 A:Accession: B60037
 A:Status: not compared with conceptual translation
 A:Molecule type: DNA
 A:Residues: 78-155 <LAM>
 R:Nishizawa, M.; Hayakawa, Y.; Yanaihara, N.; Okamoto, H.
 FEBS Lett. 183, 55-59, 1985
 A:Title: Nucleotide sequence divergence and functional constraint in VIP precursor mRNA
 A:Reference number: A01548; PMID:85154612; PMID:3838518
 A:Accession: A01548
 A:Molecule type: mRNA
 A:Residues: 9-170 <NIS>
 A:Cross-references: GB:X02341; NID:G57481; PIDN:CAA26200.1; PID:G758267
 A:Experimental source: cerebral cortex
 R:Goetzl, E.U.; Sreedharan, S.P.; Turck, C.W.
 J. Biol. Chem. 263, 9083-9086, 1988
 A:Title: Structurally distinct vasoactive intestinal peptides from rat basophilic leu
 A:Reference number: A28102; PMID:88243784; PMID:3379062
 A:Accession: A28102
 A:Molecule type: protein
 A:Residues: 134-152 <GOB>
 A:Note: the source of this novel short form of VIP was rat basophilic leukemia cells
 R:Cavali, A.; Vandermiers, A.; Vandermiers-Piret, M.C.; Rathe, J.; Robberecht, P.; Chris
 Endocrinology 125, 1296-1302, 1989
 A:Title: Peptide histidine isoleucineamide (PHI)-(1-27)-Gly as a new major form of PHI in
 A:Reference number: A60586; PMID:89338237; PMID:2759027
 A:Accession: A60586
 A:Molecule type: protein
 A:Residues: 81-108 <CAU>
 R:Cavali, A.; Vandermiers, A.; Vandermiers-Piret, M.C.; Robberecht, P.; Christophe, J.
 Endocrinology 125, 2645-2655, 1989
 A:Title: Variable distribution of three molecular forms of peptide histidine isoleucineam
 A:Reference number: A60587; PMID:90005222; PMID:2792003
 A:Accession: A60587
 A:Molecule type: protein
 A:Residues: 81-122 <CA2>
 R:Bucall, L.; Cavali, A.; Gourlet, P.; Goseen, D.; de Neef, P.; Rathe, J.; Robberecht, J
 Biochim. Biophys. Acta 1038, 355-359, 1990
 A:Title: Purification and amino acid sequence of vasoactive intestinal peptide, peptide
 A:Reference number: S09688; PMID:90254163; PMID:2340294

A/Contents: annotation; comparison of mammalian PHI sequences
 C/Comment: Two active peptides are released from the VIP precursor by cleavage at paired C/Genetics:
 A/Introns: 36/2; 77/2; 156/2
 C/Superfamily: glucagon
 C/Keywords: amidated carboxyl end; cerebral cortex; duplication; glycoprotein; hormone;
 F/1-21/Domain: signal sequence #status predicted <SIG>
 F/81-108/Product: PHI-42 #status experimental <PHI42>
 F/81-108/Product: PHI-27-Gly #status experimental <PHIG>
 F/125-152/Product: peptide histidine-isoleucine (PHI-27) #status predicted <PHI>
 F/125-152/Product: vasoactive intestinal peptide #status predicted <VIP>
 F/107/Modified site: amidated carboxyl end (ile) (amide in mature form from following gl
 F/107/Binding site: carbohydrate (Asn) (covalent) #status predicted
 F/152/Modified site: amidated carboxyl end (Asn) (amide in mature form from following gl

Query Match 38.1%; Score 82; DB 1; Length 170;
 Best Local Similarity 37.8%; Pred. No. 0.0031;
 Matches 14; Conservative 12; Mismatches 11; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMRGQGESNOE 37
 Db 81 HADGVFTSDYSRLLGQISAKKYLESLIGKRISSTISE 117

RESULT 11
 A60037
 Vasoactive intestinal peptide precursor - mouse
 N/Contents: peptide histidine-isoleucine (PHI-27); vasoactive intestinal peptide (VIP)
 C/Species: Mus musculus (house mouse)
 C/Date: 03-Mar-1993 #sequence_revision 03-Mar-1993 #text_change 20-Apr-2001
 C/Accession: A60037; 149386
 R/Lampert, E.D.; Rosen, K.M.; Villa-Komaroff, L.
 Brain Res. Mol. Brain Res. 9, 217-231, 1991
 A/Title: Characterization of the gene and messages for vasoactive intestinal polypeptide
 A/Reference number: A60037; MUID:91232388; PMID:1851524
 A/Accession: A60037
 A/Status: not compared with conceptual translation
 A/Molecule type: DNA
 A/Reads: 1-170 <LMB>
 R/Sena, M.; Bravo, D.T.; Von Agoston, D.; Wacheck, J.A.
 DNA Seq. 5, 23-29, 1994
 A/Title: High conservation of upstream regulatory sequences on the human and mouse vasoa
 A/Reference number: 149386; MUID:95201289; PMID:7894056
 A/Accession: 149386
 A/Status: preliminary; translated from GB/EMBL/DBJ
 A/Molecule type: DNA
 A/Reads: 1-35 <RES>
 A/Cross-references: EMBL:X74297; NID:9895871; PIDN:CA452350.1; PID:9895872
 C/Comment: Two active peptides are released from the VIP precursor by cleavage at paired
 C/Genetics:
 A/Gene: VIP
 C/Superfamily: glucagon
 C/Keywords: amidated carboxyl end; cerebral cortex; duplication; glycoprotein; hormone;
 F/1-21/Domain: signal sequence #status predicted <SIG>
 F/81-107/Product: PHI-27 #status predicted <PHI>
 F/125-152/Product: vasoactive intestinal peptide #status predicted <VIP>
 F/107/Modified site: amidated carboxyl end (ile) (amide in mature form from following gl
 F/107/Binding site: carbohydrate (Asn) (covalent) #status predicted
 F/152/Modified site: amidated carboxyl end (Asn) (amide in mature form from following gl

Query Match 38.1%; Score 82; DB 2; Length 170;
 Best Local Similarity 37.8%; Pred. No. 0.0031;
 Matches 14; Conservative 12; Mismatches 11; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMRGQGESNOE 37
 Db 81 HADGVFTSDYSRLLGQISAKKYLESLIGKRISSTISE 117

RESULT 12
 VRGP
 Vasoactive intestinal peptide precursor - guinea pig (fragments)
 N/Contents: peptide histidine-isoleucine (PHI-27); vasoactive intestinal peptide (VIP)

C/Species: Cavia porcellus (guinea pig)
 C/Date: 31-Mar-1998 #sequence_revision 19-Apr-1996 #text_change 20-Mar-1998
 C/Accession: A26175; S09688; A57082; B60304
 R/Du, B.H.; Eng, J.; Hulmes, J.D.; Chang, M.; Pan, Y.C.E.; Yalow, R.S.
 Biochem. Biophys. Res. Commun. 128, 1093-1098, 1985
 A/Title: Guinea pig has a unique mammalian VIP.
 A/Reference number: A26175; MUID:85225523; PMID:4004849
 A/Accession: A26175
 A/Molecule type: protein
 A/Reads: 28-55 <DUB>
 R/Bucall, L.; Cavini, A.; Gourlet, P.; Gossen, D.; de Neef, P.; Rache, J.; Robberecht,
 Biochim. Biophys. Acta 1038, 335-359, 1990
 A/Title: Purification and amino acid sequence of vasoactive intestinal peptide, peptide
 A/Reference number: S09688; MUID:90254163; PMID:2340294
 A/Accession: S09688
 A/Molecule type: protein
 A/Reads: 1-27 <BUS>
 A/Accession: A57082
 A/Molecule type: protein
 A/Reads: 28-55 <BU2>
 C/Superfamily: glucagon
 C/Keywords: amidated carboxyl end; duplication; hormone; intestine; neuropeptide; vasodi
 F/1-27/Product: peptide histidine-isoleucine #status experimental <P27>
 F/28-55/Product: vasoactive intestinal peptide #status experimental <VIP>
 F/27/Modified site: amidated carboxyl end (ile) (in mature form) #status experimental
 F/55/Modified site: amidated carboxyl end (Asn) (in mature form) #status experimental

Query Match 37.7%; Score 81; DB 1; Length 55;
 Best Local Similarity 51.9%; Pred. No. 0.0013;
 Matches 14; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIM 27
 Db 1 HADGVFTSDYSRLLGQISAKKYLESLI 27

RESULT 13
 VRBO
 Vasoactive intestinal peptide precursor - bovine (fragments)
 N/Contents: peptide histidine-isoleucine (PHI-27); vasoactive intestinal peptide (VIP)
 C/Species: Bos primigenius taurus (cattle)
 C/Date: 26-Apr-1996 #sequence_revision 03-May-1996 #text_change 07-May-1999
 C/Accession: A61643; A61644; S09689
 R/Carlquist, M.; Kaiser, R.; Tatemoto, K.; Joernvall, H.; Mutt, V.
 Eur. J. Biochem. 144, 243-247, 1984
 A/Title: A novel form of the polypeptide PHI isolated in high yield from bovine upper in
 A/Reference number: A61643; MUID:85027215; PMID:6548446
 A/Accession: A61643
 A/Molecule type: protein
 A/Reads: 1-27 <CAR>
 R/Carlquist, M.; Mutt, V.; Joernvall, H.
 FEBS Lett. 108, 457-460, 1979
 A/Title: Isolation and characterization of bovine vasoactive intestinal peptide (VIP).
 A/Reference number: A61644; MUID:80092152; PMID:520589
 A/Accession: A61644
 A/Molecule type: protein
 A/Reads: 28-55 <CA2>
 R/Bucall, L.; Cavini, A.; Gourlet, P.; Gossen, D.; de Neef, P.; Rache, J.; Robberecht,
 Biochim. Biophys. Acta 1038, 335-359, 1990
 A/Title: Purification and amino acid sequence of vasoactive intestinal peptide, peptide
 A/Reference number: S09688; MUID:90254163; PMID:2340294
 A/Accession: S09688
 A/Molecule type: protein
 A/Reads: 28-55 <CA2>
 C/Superfamily: glucagon
 C/Keywords: amidated carboxyl end; duplication; hormone; intestine; neuropeptide; vasodi
 F/1-27/Product: peptide histidine-isoleucine #status experimental <P27>
 F/28-55/Product: vasoactive intestinal peptide #status experimental <VIP>
 F/27/Modified site: amidated carboxyl end (ile) (in mature form) #status experimental
 F/55/Modified site: amidated carboxyl end (Asn) (in mature form) #status experimental

Query Match 36.3%; Score 78; DB 1; Length 55;
 Best Local Similarity 48.1%; Pred. No. 0.0031;
 Matches 13; Conservative 9; Mismatches 5; Indels 0; Gaps 0;

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OM protein - protein search, using sw model

Run on: February 11, 2004, 11:42:56 ; Search time 11 Seconds

(without alignments)
188.107 Million cell updates/sec

Title: 09-786639
Perfect score: 215
Sequence: 1 yadalfensykvlglsar.....dimarqgsengergararl 44

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	215	100.0	108	1	SLIB_HUMAN
2	202	94.0	44	1	SLIB_PIG
3	196	91.2	106	1	SLIB_BOVIN
4	195	90.7	44	1	SLIB_SHEEP
5	192	89.3	107	1	SLIB_MESAU
6	150	69.8	104	1	SLIB_RAT
7	116.5	54.2	103	1	SLIB_MOUSE
8	96	44.7	175	1	PACA_CHICK
9	92	42.8	173	1	PACA_ONCNE
10	91	42.3	45	1	SLIB_CYPCA
11	85	39.5	170	1	VIP_HUMAN
12	85	39.5	175	1	PACA_MOUSE
13	84	39.1	175	1	PACA_RAT
14	82	38.1	170	1	VIP_MOUSE
15	82	38.1	170	1	VIP_RAT
16	81	37.7	72	1	VIP_CAVPO
17	79	36.7	171	1	PACA_RANRI
18	78	36.3	72	1	VIP_BOVIN
19	74	34.4	72	1	VIP_PIG
20	74	34.4	72	1	VIP_RABIT
21	74	34.4	176	1	PACA_SHEEP
22	71	33.0	176	1	PACA_HUMAN
23	70	32.6	28	1	VIP_DIDMA
24	66	30.7	195	1	PACA_CICMA
25	63.5	29.5	200	1	VIP_CHICK
26	63.5	29.5	200	1	VIP_MEIGA
27	63	29.3	35	1	EXB2_HELSU
28	63	29.3	73	1	PACA_PIG
29	61	28.4	38	1	EXB1_HELSU
30	59	27.4	27	1	SECR_CHICK
31	59	27.4	28	1	VIP_SHEEP
32	59	27.4	1610	1	CCAD_MESAU
33	59	27.4	2161	1	CCAD_HUMAN

34	59	27.4	2203	1	CCAD_RAT	P27732 ractus novy
35	58	27.0	266	1	GLUL_XENLA	O42143 xenopus lae
36	57	26.5	28	1	VIP_SCYCA	P09685 scyllorhinu
37	57	26.5	38	1	PACA_URAJA	P81039 uranoscopus
38	56	26.0	28	1	VIP_ALIMI	P48142 alligator m
39	56	26.0	28	1	VIP_RANRI	P81016 rana ridibu
40	56	26.0	487	1	BCHZ_RHOGE	O9jpb9 rhodocyclus
41	55	25.6	1826	1	UVRA_CHLPN	O32985 chlamydia p
42	54	25.1	25	1	VIP_GADMO	P09684 gadus morhu
43	53.5	24.9	314	1	PIRE_DEIRA	O9rvc0 deinococcus
44	53	24.7	81	1	VPU_HVIR	P20882 human immun
45	53	24.7	206	1	GLUC_CHICK	P01277 gallus galli

ALIGNMENTS

RESULT 1	SLIB_HUMAN	STANDARD;	PRT;	108 AA.
AC	P01286			
DT	21-JUL-1986 (Rel. 01, Created)			
DT	21-JUL-1986 (Rel. 01, Last sequence update)			
DT	28-FEB-2003 (Rel. 41, Last annotation update)			
DE	Somatoliberin precursor (Growth hormone-releasing factor) (GRF)			
DE	(Growth hormone-releasing hormone) (GHRH) (Somatotocortin) (Sermorelin).			
GN	GHRH OR GHRP. (Human).			
OS	Human sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Carnivora; Hominoidea; Homo.			
OX	NCBI_TaxID=9606;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=85273612; PubMed=6192430;			
RA	Gubler U., Monahan J.U., Lomedico P.T., Bhatt R.S., Collier K.J.,			
RA	Hoffman B.J., Boehlen P., Esch F., Ling N., Zeytin F., Brazeau P.,			
RA	Poonian M.S., Gage L.P.;			
RT	"Cloning and sequence analysis of cDNA for the precursor of human			
RT	growth hormone-releasing factor, somatotocortin."			
RL	Proc. Natl. Acad. Sci. U.S.A. 80:4311-4314(1983).			
RN	[2]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=21638749; PubMed=11780052;			
RA	DeLouras P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,			
RA	Jones M., Stavrides G., Almeida J.P., Babbage A.K., Baggaley C.L.,			
RA	Bailey J., Bartlow K.F., Bates K.N., Beard L.M., Beare D.M.,			
RA	Beesley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,			
RA	Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,			
RA	Chapman J.C., Clapp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,			
RA	Clagg S., Covey V.E., Collier R.E., Connor R.B., Corby N.R.,			
RA	Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,			
RA	Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,			
RA	Graham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,			
RA	Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,			
RA	Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,			
RA	Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,			
RA	Leiva-Velazco M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,			
RA	Marsh V.L., Martin S.L., McConachie L.J., McKay K., McMurtry A.A.,			
RA	Milne S.A., Mistry D., Moore M.J.F., Mulligan J.C., Nickerson T.,			
RA	Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,			
RA	Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsey H.,			
RA	Rice C.M., Ross M.T., Scott C.E., Senta H.K., Showkaten R., Sims S.,			
RA	Skice C.D., Smith M.L., Soderlund C., Steward C.A., Sultson J.B.,			
RA	Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,			
RA	Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,			


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RA RA Whitehead S.L., Whitcaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.;
RA "The DNA sequence and comparative analysis of human chromosome 20.";
RA Nature 414:865-871(2001).
RA [4]
RA SEQUENCE OF 6-101 FROM N.A.
RX MEDLINE=84039819; PubMed=6415488;
RA Mayo K.E., Vale W., Rivier J., Rosenfeld M.G., Evans R.M.;
RA "Expression-cloning and sequence of a cDNA encoding human growth
RA hormone-releasing factor.";
RA Nature 306:86-88(1983).
RA [5]
RA SEQUENCE OF 32-75.
RX MEDLINE=83016666; PubMed=6812220;
RA Guillemin R., Brazeau P., Boehlen P., Esch F., Ling N.,
RA Wehrenberg W.B.;
RA "Growth hormone-releasing factor from a human pancreatic tumor that
RA caused acromegaly.";
RA Science 218:585-587(1982).
RA [6]
RA STRUCTURE BY NMR OF 32-60.
RX MEDLINE=89220972; PubMed=2854259;
RA Bruenger A.T., Clore G.M., Gronenborn A.M., Karplus M.;
RA "Solution conformations of human growth hormone releasing factor:
RA comparison of the restrained molecular dynamics and distance geometry
RA methods for a system without long-range distance data.";
RA Protein Eng. 1:399-406(1987).
RA [7]
RA STRUCTURE BY NMR OF 32-60.
RX MEDLINE=87141181; PubMed=3029387;
RA Clore G.M., Martin S.R., Gronenborn A.M.;
RA "Solution structure of human growth hormone releasing factor.
RA Combined use of circular dichroism and nuclear magnetic resonance
RA spectroscopy.";
RA J. Mol. Biol. 191:553-561(1986).
RA CC -I- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE
RA ADENOHYPHYSSE TO STIMULATE THE SECRETION OF GROWTH HORMONE.
CC CC -I- PHARMACEUTICAL: Available under the names Geref (Serono). Geref is
CC CC a synthetic acetylated form of residues 1 to 29 of GHRH. Used
CC CC for the treatment of growth hormone deficiency.
CC CC -I- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC CC -----
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CC CC or send an email to license@isb-sdb.ch).
CC CC -----
DR EMBL, L29177; -; NOT ANNOTATED_CDS.
DR EMBL, L00137; AAA52608.1; -.
DR EMBL, L00134; AAA52608.1; JOINED.
DR EMBL, L00135; AAA52608.1; JOINED.
DR EMBL, L00136; AAA52608.1; JOINED.
DR EMBL, L00137; AAA52609.1; -.
DR EMBL, L00134; AAA52609.1; JOINED.
DR EMBL, L00135; AAA52609.1; JOINED.
DR EMBL, L00136; AAA52609.1; JOINED.
DR EMBL, AL031659; CAB41762.1; -.
DR EMBL, X00094; CAA24955.1; -.
DR EMBL, X00094; CAA24956.1; -.
DR PIR, A21902; RHHS.
DR GeneW; HGNC:4265; GHRH.
DR MIM, 139180; -.
DR GO, GO:0007267; P:cell-cell signaling; TAS.
DR GO, GO:0007165; P:signal transduction; TAS.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 1.
DR SMART; SMO0070; GLUCA; 1.
DR PROSITE; PS00260; GLUCAGON; 1.
DR Glucagon family; Signal; Antidation; Hypothalamus.

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FT	SIGNAL	1	20	SOMATOLIBERIN.
FT	PEPTIDE	32	75	AMIDATION (G-76 PROVIDE AMIDE GROUP).
FT	MOD RES	75	75	MISSING (IN A 2ND PRECURSOR).
FT	VARIANT	103	103	/FTID=VAR 003186.
FT	CONFLICT	92	92	E -> D (IN REF. 4).
FT	SEQUENCE	108 AA;	12447 MW;	366AB05383480C53 CRC64;
SO	SEQUENCE	108 AA;	12447 MW;	366AB05383480C53 CRC64;
Query Match		100.0%;	Score 215;	DB 1;
Best Local Similarity		100.0%;	Pred. No. 1.1e-21;	Length 108;
Matches	44;	Conservative	0;	Mismatches 0;
				Indels 0;
				Gaps 0;
Qy	1	YADAIFTNSYRKVLGQLSARLTLDDINSRQGGESNOERGAPRL	44	
Db	32	YADAIFTNSYRKVLGQLSARLTLDDINSRQGGESNOERGAPRL	75	
RESULT 2				
SLIB_PIG	STANDARD;	PRT;	44 AA.	
ID_SLIB_PIG				
AC	P01287;			
DT	21-JUL-1986 (Rel. 01, Created)			
DT	21-JUL-1986 (Rel. 01, Last sequence update)			
DT	01-OCT-1996 (Rel. 34, Last annotation update)			
DE	Somatoliberin (Growth hormone-releasing factor) (GRF) (Growth hormone-releasing hormone) (GHRH).			
GN				
OS	Sus scrofa (Pig).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.			
OX	NCBI_TaxID=9823;			
RN	[1]			
RC	SEQUENCE.			
RP	TISSUE=Hypothalamus;			
RX	MEDLINE=84079886; PubMed=6418166;			
RA	Boehlen P., Esch F., Brazeau P., Ling N., Guillemin R.;			
RT	"Isolation and characterization of the porcine hypothalamic growth hormone releasing factor.";			
RL	Biochem. Biophys. Res. Commun. 116:726-734(1983).			
CC	-1- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE ADENOHYPHYS TO STIMULATE THE SECRETION OF GROWTH HORMONE.			
CC	-1- MISCELLANEOUS: THE CARBOXYL-AMIDATED SOMATOLIBERIN IS TWICE AS ACTIVE AS THAT HAVING A FREE CARBOXYL END.			
CC	-1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.			
CC	PIR; A01553; RHPG.			
DR	InterPro; IPR000532; Glucagon.			
DR	Pfam; PF00123; hormone2; 1.			
DR	SMART; SM00070; GLUCA; 1.			
DR	PROSITE; PS00260; GLUCAGON; 1.			
KW	Glucagon family; Amidation; Hypothalamus.			
FT	MOD RES	44	44	AMIDATION.
SO	SEQUENCE	44 AA;	5110 MW;	1271DC7059F4802E CRC64;
Query Match		94.0%;	Score 202;	DB 1;
Best Local Similarity		93.2%;	Pred. No. 2.2e-20;	Length 44;
Matches	41;	Conservative	1;	Mismatches 2;
				Indels 0;
				Gaps 0;
Qy	1	YADAIFTNSYRKVLGQLSARLTLDDINSRQGGESNOERGAPRL	44	
Db	1	YADAIFTNSYRKVLGQLSARLTLDDINSRQGGESNOERGAPRL	44	
RESULT 3				
SLIB_BOVIN	STANDARD;	PRT;	106 AA.	
ID_SLIB_BOVIN				
AC	P01288; Q9MZD4;			
DT	21-JUL-1986 (Rel. 01, Created)			
DT	16-OCT-2001 (Rel. 40, Last sequence update)			
DT	28-FEB-2003 (Rel. 41, Last annotation update)			
DE	Somatoliberin precursor (Growth hormone-releasing factor) (GRF) (Growth hormone-releasing hormone) (GHRH).			
GN				
OS	Bos taurus (Bovine); and			


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OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;
OC Bovidae; Bovinae; Bos.
NCBI_TaxID=9913, 9925;
RN
RP SEQUENCE FROM N.A.
RC SPECIES=Bovine;
RA Zhou P., Kazmer G.W., Yang X.;
RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
RN
RP SEQUENCE OF 31-74.
RC SPECIES=Bovine;
RA Esch F., Boehlen P., Ling N., Brazeau P., Guillemin R.;
RT "Isolation and characterization of the bovine hypothalamic growth
RT hormone releasing factor."
RL Biochem. Biophys. Res. Commun. 117:772-779(1983).
RN
RP SEQUENCE OF 31-74.
RC SPECIES=C.hircus;
RA Brazeau P., Boehlen P., Esch F., Ling N., Wehrenberg W.B.,
RA Guillemin R.;
RT "Growth hormone-releasing factor from ovine and caprine hypothalamus:
RT isolation, sequence analysis and total synthesis."
RL Biochem. Biophys. Res. Commun. 125:606-614(1984).
CC -1- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE
CC -1- ADENOHYPOPHYSIS TO STIMULATE THE SECRETION OF GROWTH HORMONE.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC or send an email to licenses@ib-sib.ch).
CC -----
DR EMBL, AF242855; AAF89171.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 1.
DR SMART; SM00070; GLUCA; 1.
DR PROSITE; PS00260; GLUCAGON; 1.
KW Glucagon family; Signal; Amidation; Hypothalamus.
FT SIGNAL 1 19
FT PEPTIDE 1 19
FT MOD_RES 74 74 SOMATOLIBERIN.
SQ SEQUENCE 106 AA; 12058 MW; 6584FAF25ABEF178 CRC64;

Query Match 91.2%; Score 196; DB 1; Length 106;
Best Local Similarity 86.4%; Pred. No. 3,5e-19;
Matches 39; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLQDIMSROGSESNOEGARARL 44
Db 31 YADAFITNSYRKVLGQLSARKLQDIMSROGSESNOEGARARL 74

RESULT 4
SLIB SHEEP STANDARD; PRT; 44 AA.
AC P07217;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-APR-1988 (Rel. 07, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Somatoliberin (Growth hormone-releasing factor) (GRF) (Growth
DE hormone-releasing hormone) (GHRH).
GN GHRH.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;
OC Bovidae; Caprinae; Ovis.

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OX NCBI_TaxID=9940;
RN
RP SEQUENCE.
RX MEDLINE=85096956; PubMed=6440561;
RA Brazeau P., Boehlen P., Esch F., Ling N., Wehrenberg W.B.,
RA Guillemin R.;
RT "Growth hormone-releasing factor from ovine and caprine hypothalamus:
RT isolation, sequence analysis and total synthesis."
RL Biochem. Biophys. Res. Commun. 125:606-614(1984).
CC -1- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE
CC -1- ADENOHYPOPHYSIS TO STIMULATE THE SECRETION OF GROWTH HORMONE.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC -----
DR EMBL; D23671; BAA04901.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 1.
DR SMART; SM00070; GLUCA; 1.
DR PROSITE; PS00260; GLUCAGON; 1.
KW Glucagon family; Signal; Amidation; Hypothalamus.
FT SIGNAL 1 19
FT PEPTIDE 31 74 SOMATOLIBERIN.
FT MOD_RES 74 74 AMIDATION (G-75 PROVIDE AMIDE GROUP) (BY

Query Match 90.7%; Score 195; DB 1; Length 44;
Best Local Similarity 86.4%; Pred. No. 1.9e-19;
Matches 38; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLQDIMSROGSESNOEGARARL 44
Db 1 YADAFITNSYRKVLGQLSARKLQDIMSROGSESNOEGARARL 44

RESULT 5
SLIB MESAU STANDARD; PRT; 107 AA.
AC Q60549;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Somatoliberin precursor (Growth hormone-releasing factor) (GRF)
DE (Growth hormone-releasing hormone) (GHRH).
GN GHRH OR GRF.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
NCBI_TaxID=10036;
RN
RP SEQUENCE FROM N.A.
RC TISSUE=Hypothalamus;
RX MEDLINE=95218216; PubMed=7703510;
RA Ono M., Miki N., Demura H., Tadokoro K., Nagafuchi S., Yamada M.;
RT "Molecular cloning of cDNA encoding the precursor for hamster
RT hypothalamic growth hormone-releasing factor."
RL DNA Seq. 5:93-102(1994).
CC -1- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE
CC -1- ADENOHYPOPHYSIS TO STIMULATE THE SECRETION OF GROWTH HORMONE.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC -----
DR EMBL; D23671; BAA04901.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 1.
DR SMART; SM00070; GLUCA; 1.
DR PROSITE; PS00260; GLUCAGON; 1.
KW Glucagon family; Signal; Amidation; Hypothalamus.
FT SIGNAL 1 19
FT PEPTIDE 31 74 SOMATOLIBERIN.
FT MOD_RES 74 74 AMIDATION (G-75 PROVIDE AMIDE GROUP) (BY

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Cy		1	YADAFITNSYRKVLGQLSARKLLODIMSROGESNOEGCARL	44
Dd		31	YADAIFITSYRKVIGQLSARKLLDDIMSRQGSGRNQQGPVRRL	74
			: : : :	
RESULT 6				
SUBSTRAT	RAT	STANDARD:	PRT;	104 AA.
ID	SUBSTRAT			
AC	P09916;			
DT	01-MAR-1989 (Rel. 10, Created)			
DT	01-FEB-1991 (Rel. 17, Last sequence update)			
DT	28-FEB-2003 (Rel. 41, Last annotation update)			
DE	Somatoliberin precursor (Growth hormone-releasing factor) (GRF)			
DE	(Growth hormone-releasing hormone) (GHRH).			
GNR				
OS	Rattus norvegicus (Rat).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
CC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.			
OX	NCBI_TaxID=10116;			
NN	[1]			
RP	SEQUENCE FROM N.A.			
RP	MEDLINE=85163768; PubMed=3920534;			
RA	Mayo K.E., Cerelli G.M., Rosenfeld M.G., Evans R.M.;			
RT	"Characterization of cDNA and genomic clones encoding the precursor			
RT	to rat hypothalamic growth hormone-releasing factor."			
RL	Nature 314:464-467(1985).			
NN	[2]			
RP	SEQUENCE FROM N.A.			
RP	MEDLINE=92020929; PubMed=1924334;			
RX	Gonzalez-Crespo S., Borronat A.;			
RT	"Expression of the rat growth hormone-releasing hormone gene in			
RT	placenta is directed by an alternative promoter."			
RL	Proc. Natl. Acad. Sci. U.S.A. 88:8749-8753(1991).			
NN	[3]			
RP	SEQUENCE FROM N.A.			
RP	TISSUE=Sprague-Dawley; TISSUE=Testicis;			
RX	MEDLINE=95205210; PubMed=7895559;			
RA	Srivastava C.H., Monts B.S., Rothrock J.K., Peredo M.J.,			
RA	Pescovitz O.H.;			
RT	"Presence of a spermatogenic-specific promoter in the rat growth			
RT	hormone-releasing hormone gene"			
RL	Endocrinology 136:1502-1508(1995).			
NN	[4]			
RP	SEQUENCE OF 31-73.			
RC	TISSUE=Hypothalamus;			
RX	MEDLINE=83219259; PubMed=6406907;			
RA	Spies J., Rivier J., Vale W.;			
RT	"Characterization of rat hypothalamic growth hormone-releasing			
RT	factor."			
RL	Nature 303:532-535(1983).			
CC	-I- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE			
CC	APOHYPOPHEASE TO STIMULATE THE SECRETION OF GROWTH HORMONE.			
CC	-I- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.			
CC	-----			
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CC	modified and this statement is not removed. Usage by and for commercial			
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CC	or send an email to license@isb-sib.ch).			
CC	-----			
DR	EMBL; X02319; ? NOT ANNOTATED_CDS.			
DR	EMBL; X02335; CAZ26194.1; JOINED.			
DR	EMBL; X02320; CAZ26194.1; JOINED.			
DR	EMBL; X02321; CAZ26194.1; JOINED.			

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DR EMBL: X02322; CAA26194.1; JOINED.
DR EMBL: M73486; AAA41220.1; -.
DR EMBL: U0156; AAC52184.1; -.
DR PIR: A32731; A32731.
DR InterPro: IPR00532; Glucagon.
DR Pfam: PF00123; hormone2; 1.
DR SMART: SMO0070; GLUCA; 1.
DR PROSITE: PS00260; GLUCAGON; 1.
KW Glucagon family; Signal; Hypothalamus.
FT SIGNAL
FT SIGNAL
FT SIGNAL
SQ SEQUENCE 104 AA; 12266 MW; FQC17485742B287 CRC64;
-----
Query Match 69.8%; Score 150; DB 1; Length 104;
Best Local Similarity 70.7%; Pred. No. 4,5e-13;
Matches 29; Conservative 8; Mismatches 4; Indels 0; Gaps 0;
OY 1 YADAIFTNSYKVKVIGQLSARLTLDDIMRGQESNOERGAR 41
Db 31 HADAIFTSSYRRILIGQLYARKLHEIMNRQGERNOERGR 71
-----
RESULT 7
SLIB_MOUSE
ID SLIB_MOUSE STANDARD; PRT; 103 AA.
AC P16043;
DC 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Somatoliberin precursor (Growth hormone-releasing factor) (GRF)
GN (Growth hormone-releasing hormone) (GHRH).
OS GHRH.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
CX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90114172; PubMed=2514346;
RA Suhir S.T., Rahal J.O., Mayo K.E.;
RT "Mouse growth-hormone-releasing hormone: precursor structure and
RT expression in brain and placenta.";
RN M01. Endocrinol. 3:1693-1700(1989).
RN [2]
RN SEQUENCE FROM N.A.
RX MEDLINE=90114154; PubMed=2481813;
RA Frohman M.A., Downs T.R., Chomczynski P., Frohman L.A.;
RT "Cloning and characterization of mouse growth hormone-releasing
RT hormone (GRH) complementary DNA: increased GRH messenger RNA levels
RT in the growth hormone-deficient 11c/11t mouse.";
RN M01. Endocrinol. 3:1529-1536(1989).
CC -!- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE
CC ADHENOHPHUSE TO STIMULATE THE SECRETION OF GROWTH HORMONE.
CC -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC -----
DR EMBL: M31654; AAA37691.1; -.
DR EMBL: M31658; AAA37739.1; -.
DR PIR: A41410; A41410.
DR MGD; MGI:95709; Ghrn.
DR InterPro: IPR00532; Glucagon.
DR Pfam: PF00123; hormone2; 1.
DR SMART: SMO0070; GLUCA; 1.
DR PROSITE: PS00260; GLUCAGON; 1.
KW Glucagon family; Signal; Hypothalamus.
FT SIGNAL
FT SIGNAL
FT SIGNAL

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FT PEPTIDE 31 72 SOMATOLIBERIN.
SQ SEQUENCE 103 AA; 12064 MM; P3BA6870BF2CA8DC CRC64;

Query Match 54.2%; Score 116.5; DB 1; Length 103;
Best Local Similarity 61.0%; Pred. No. 1.2e-08;
Matches 25; Conservative 8; Mismatches 7; Indels 1; Gaps 1;

OY 1 YADAFITNSYRKVLGQLSARKLLODIMSROQGESNOERGAR 41
   :|||:||||:||||:||||:||||:||||:||||:||||:
Db 31 HVDAIFITNRYKRLSLQYARKYIDIMNK-OGERRIQERAR 70

RESULT 8
PACA_CHICK STANDARD; PRT; 175 AA.
AC P41534;
DT 01-NOV-1995 (Rel. 32, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Glucagon-family neuropeptides precursor [Contains: Growth hormone-
   releasing factor (GRF) (Growth hormone-releasing hormone) (GHRH);
   pituitary adenylate cyclase activating polypeptide-27 (PACAP-27)
   (PACAP27); pituitary adenylate cyclase activating polypeptide-38
   (PACAP-38) (PACAP38)].
DE (PACAP-38) (PACAP38)].
GN ADCYAP1.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97174314; PubMed=9022048;
RA McRory J.E., Parker R.L., Sherwood N.M.;
RT "Expression and alternative processing of a chicken gene encoding
   both growth hormone-releasing hormone and pituitary adenylate
   cyclase-activating polypeptide."
RT DNA Cell Biol. 16:95-102(1997).
RN [2]
RP SEQUENCE OF 131-168.
RA Yasuhara T., Mizuno K., Somogyvari-Vigh A., Komaki G., Arimura A.;
RT "Isolation and primary structure of chicken PACAP."
RL Regul. Pept. 37:326-326(1992).
CC -1- FUNCTION: PRIMARY ROLE OF GRF IS TO RELEASE GH FROM THE PITUITARY.
CC -1- FUNCTION: PACAP PLAYS PIVOTAL ROLES AS A NEUROTRANSMITTER AND/OR A
   NEUROMODULATOR.
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=3;
CC Name=GRF 1-46;
CC IsoId=P41534-1; Sequence=Displayed;
CC Name=GRF 1-43;
CC IsoId=P41534-2; Sequence=VSP_001760;
CC Name=GRF 33-46;
CC IsoId=P41534-3; Sequence=VSP_001759;
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC -----
CC DR EMBL; U71183; AAB51200.1; -.
CC DR EMBL; U71184; AAB51201.1; -.
CC DR EMBL; U71185; AAB51202.1; -.
CC DR InterPro; IPR000532; Glucagon.
CC Pfam; PF00123; hormone2; 2.
CC PRINTS; PR00275; GLUCAGON.
CC SMART; SM00070; GLUCA; 2.
CC PROSITE; PS00260; GLUCAGON; 2.
CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;

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KW Amidation; Alternative splicing.
FT SIGNAL 1 23 POTENTIAL.
FT PROPEP 24 80
FT PEPTIDE 83 128 GROWTH HORMONE-RELEASING FACTOR 1-46.
FT PEPTIDE 131 168 PITUITARY ADENYLATE CYCLASE ACTIVATING
   POLYPEPTIDE-38.
FT PEPTIDE 131 157 PITUITARY ADENYLATE CYCLASE ACTIVATING
   POLYPEPTIDE-27.
FT MOD_RSS 157 157 AMIDATION (G-158 PROVIDE AMIDE GROUP).
FT MOD_RES 168 168 AMIDATION (G-169 PROVIDE AMIDE GROUP).
FT VARSPPLIC 82 114 RHADGIFSKAYRKLLGQLSARNYLSHMAKRVGASGLGDEA
   (in isoform GRF 33-46).
FT VARSPPLIC 115 117 /FtId=VSP_001759.
FT VARSPPLIC 115 117 /FtId=VSP_001760.
SQ SEQUENCE 175 AA; 19560 MM; ODB5495F0AA9DFB CRC64;

Query Match 44.7%; Score 96; DB 1; Length 175;
Best Local Similarity 45.2%; Pred. No. 1.1e-05;
Matches 19; Conservative 10; Mismatches 13; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLODIMSROQGESNOERGARA 42
   :|||:||||:||||:||||:||||:||||:||||:||||:
Db 83 HADGIFSKAYRKLLGQLSARNYLSHMAKRVGASGLGDEA 124

RESULT 9
PACA_ONCNE STANDARD; PRT; 173 AA.
ID P41585;
AC P41585;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Glucagon-family neuropeptides precursor [Contains: Growth hormone-
   releasing factor (GRF) (Growth hormone-releasing hormone) (GHRH);
   pituitary adenylate cyclase activating polypeptide (PACAP)].
DE Oncorhynchus nerka (Sockeye salmon).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8023;
RN [1]
RP SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
RC TISSUE=Brain;
RX MEDLINE=9345532; PubMed=8344311;
RA Parker D.B., Coe I.R., Dixon G.H., Sherwood N.M.;
RT "Two salmon neuropeptides encoded by one brain cDNA are structurally
   related to members of the glucagon superfamily."
RL Eur. J. Biochem. 215:439-448(1993).
CC -1- FUNCTION: PRIMARY ROLE OF GHRH IS TO RELEASE GH FROM THE
   PITUITARY. PACAP PLAYS PIVOTAL ROLES AS A NEUROTRANSMITTER AND/OR A
   NEUROMODULATOR.
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=long;
CC IsoId=P41585-1; Sequence=Displayed;
CC Name=short;
CC IsoId=P41585-2; Sequence=VSP_001762, VSP_001763;
CC Note=Lacks the GHRH-like sequence;
CC -1- POLYMORPHISM: FOUR CLONES WERE IDENTIFIED THAT HAD NUCLEOTIDE
   DIFFERENCES.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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   or send an email to license@isb-sib.ch).
CC -----
CC DR EMBL; X73233; CAAS1705.1; ALT_SEQ.

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DR PIR; S34767; S34767.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 AMAdation; Alternative splicing; Polymorphism.
 FT SIGNAL 1 22
 FT PROPEP 23 80
 FT PEPTIDE 82 126
 FT PEPTIDE 129 166
 FT MOD_RES 166 166
 FT VARSPLIC 78 78
 FT VARSPLIC 79 113
 FT VARIANT 22 22
 FT VARIANT 61 61
 FT VARIANT 78 78
 FT VARIANT 122 122
 FT VARIANT 165 165
 FT VARIANT 171 171
 SQ SEQUENCE 173 AA; 19704 MW; 280B554FA3C738F2 CRC64;-

Query Match 42.8%; Score 92; DB 1; Length 173;
 Best Local Similarity 53.1%; Pred. No. 3.9e-05;
 Matches 17; Conservative 7; Mismatches 8; Indels 0; Gaps 0;
 1 YADAFITNSYRKVLGQLSARKLTDIMSROOG 32
 82 HADGFMKAYRKALGQLSARKYHTLTKAKRG 113

RESULT 10
 SLIB_CVPCA STANDARD; PRT; 45 AA.
 AC P42692;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DE 01-NOV-1995 (Rel. 32, Last annotation update)
 DE Somatoliberin (Growth hormone-releasing factor) (GRF) (Growth
 hormone-releasing hormone) (GHRH).
 OS Cyprius carpio (Common carp).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Cypriniformes;
 OC Cyprinidae; Cyprinus.
 OX NCBI_Taxid=7962;
 RN [1]
 RP SEQUENCE AND SYNTHESIS.
 RC TISSUE-Hypothalamus.
 RX MEDLINE=93116845; PubMed=1475012;
 RA Vaughan J.M., Rivlier J., Spleess J., Peng C., Chang J.P., Peter R.E.,
 RA Vale W.;
 RT "Isolation and characterization of hypothalamic growth-hormone
 RT releasing factor from common carp, *Cyprius carpio*.";
 RT Neuroendocrinology 56:539-549(1992).
 RL -1- FUNCTION: GRF IS RELEASED BY THE HYPOTHALAMUS AND ACTS ON THE
 CC ADENOHYPHYPHASE TO STIMULATE THE SECRETION OF GROWTH HORMONE.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 1.
 DR SMART; SM00070; GLUCA; 1.
 DR PROSITE; PS00260; GLUCAGON; 1.
 KW Glucagon family; Hypothalamus.
 SQ SEQUENCE 45 AA; 4979 MW; 67C9E8A06B24AE94 CRC64;

Query Match 42.3%; Score 91; DB 1; Length 45;
 Best Local Similarity 53.1%; Pred. No. 1.3e-05;
 Matches 17; Conservative 7; Mismatches 8; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLTDIMSROOG 32
 DB 1 HADGFMKAYRKALGQLSARKYHTLTKAKRG 32

RESULT 11
 VIP_HUMAN STANDARD; PRT; 170 AA.
 AC P01282; 0960K3;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 21-JUL-1986 (Rel. 01, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vasoactive intestinal peptide precursor (VIP).
 GN VIP.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_Taxid=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=83271523; PubMed=6571696;
 RA Itoh N., Ohata K.-I., Yanaihara N., Okamoto H.;
 RT "Human preprovasoactive intestinal polypeptide contains a novel
 RT PHI-27-like peptide, PHM-27.";
 RL Nature 304:547-549(1983).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=88267775; PubMed=2839091;
 RA Yamagami T., Ohnawa K., Nishizawa M., Inoue C., Gotch E.,
 RA Yanaihara N., Yamamoto H., Okamoto H.;
 RT "Complete nucleotide sequence of human vasoactive intestinal
 RT peptide/PHM-27 gene and its inducible promoter.";
 RL Ann. N.Y. Acad. Sci. 527:87-102(1988).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86004065; PubMed=3899557;
 RA Tsukada T., Horovitch S.J., Montminy M.R., Mandel G., Goodman R.H.;
 RT "Structure of the human vasoactive intestinal polypeptide gene.";
 RL DNA 4:293-300(1985).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87092456; PubMed=3025882;
 RA Linde T., Barkhem T., Norberg A., Persson H., Schalling M.,
 RA Hoekfelt S., Magnusson G.;
 RT "Structure and expression of the gene encoding the vasoactive
 RT intestinal peptide precursor.";
 RL Proc. Natl. Acad. Sci. U.S.A. 84:605-609(1987).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86016352; PubMed=2995945;
 RA Delamarier J.F., Buell G.N., Kawashima E., Polak J.M., Bloom S.R.;
 RT "Vasoactive intestinal peptide: expression of the prohormone in
 RT bacterial cells.";
 RL Peptides 6:95-102(1985).
 RN [6]
 RP SEQUENCE FROM N.A.
 RC TISSUE-Prostate;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buettow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diachenko L., Marinina K., Farmer A.A., Rubin C.M., Hong L.,
 RA Scapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Schetz T.E.,
 RA Brownstein M.J., Ueda T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Rosa S.S., Loguigliano N.A., Peters G.J., Abramson R.D., Muliahy S.J.,
 RA Bosak S.A., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulik S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Ketterman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whitting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallus D.E.,
 RA Scherch A., Schein J.B., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences."; *Proc. Natl. Acad. Sci. U.S.A.* 99:16899-16903(2002).
 RL [7].
 RN RN
 RP SEQUENCE OF 8-170 FROM N.A.
 RX MEDLINE=86313155; PubMed=3748844;
 RA Gozes I., Bodener M., Shani Y., Fridkin M.;
 RT "Structure and expression of the vasoactive intestinal peptide (VIP)
 RT gene in a human tumor."; *Peptides* 7:1-6(1986).
 RL [8].
 RN RN
 RP SEQUENCE OF 50-170 FROM N.A.
 RC TISSUE=PANCREATIC CARCINOMA;
 RX MEDLINE=84066682; PubMed=6139527;
 RA Bloom S.R., Delamarter J.F., Kawahima E., Christofides N.D.,
 RA Buell G., Polak J.M.;
 RT "Diarrhoea in vipoma patients associated with cosecretion of a second
 RT active peptide (peptide histidine isoleucine) explained by single
 RT coding gene."; *Lancet* 2:1163-1165(1983).
 RL [9].
 RN RN
 RP SEQUENCE OF 78-155 FROM N.A.
 RX MEDLINE=87140054; PubMed=2434617;
 RA Gozes I., Giladi E., Shani Y.;
 RT "Vasoactive intestinal peptide gene: Putative mechanism of information
 RT storage at the RNA level."; *J. Neurochem.* 47:1136-1141(1987).
 RL [10].
 RN RN
 RP SEQUENCE OF 81-122.
 RX MEDLINE=88007645; PubMed=3654650;
 RA Yiangou Y., di Marzo V., Spokes R.A., Panico M., Morris H.R.,
 RA Bloom S.R.;
 RT "Isolation, characterization, and pharmacological actions of peptide
 RT histidine valine 42, a novel prepro-vasoactive intestinal peptide-
 RT derived peptide."; *J. Biol. Chem.* 262:14010-14013(1987).
 RL [11].
 RN RN
 RP SEQUENCE OF 127-152.
 RX TISSUE=PHOCHROMOCYTOMA;
 RC MEDLINE=92287083; PubMed=1318039;
 RA Klemura K., Kanawa K., Kawamoto M., Ichiki Y., Matsuo H., Eto T.;
 RT "Isolation and characterization of peptides which act on rat
 RT platelets, from a pheochromocytoma."; *Biochem. Biophys. Res. Commun.* 185:134-141(1992).
 RL [12].
 RN RN
 RP STRUCTURE BY NMR OF VIP.
 RX MEDLINE=91322343; PubMed=1863695;
 RA Theriault Y., Boulanger Y., St Pierre S.;
 RT "Structural determination of the vasoactive intestinal peptide by
 RT two-dimensional H-NMR spectroscopy."; *Bio polymers* 31:459-464(1991).
 RL [13].
 CC CC
 CC -1- FUNCTION: VIP CAUSES VASODILATION, LOWERS ARTERIAL BLOOD
 CC PRESSURE, STIMULATES MYOCARDIAL CONTRACTILITY, INCREASES
 CC GLYCOGENOLYSIS AND RELAXES THE SMOOTH MUSCLE OF TRACHEA, STOMACH
 CC AND GALL BLADDER.
 CC -1- FUNCTION: PHM AND PHV ALSO CAUSE VASODILATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----
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 CC -----
 CC EMBL, L00157; AAA61289.1; -;
 DR EMBL, L00154; AAA61289.1; JOINED.
 DR EMBL, L00155; AAA61289.1; JOINED.
 DR EMBL, L00156; AAA61289.1; JOINED.
 DR EMBL, M33027; AAA69515.1; -;

DR EMBL, M11553; AAA61284.1; -;
 DR EMBL, M11549; AAA61284.1; JOINED.
 DR EMBL, M11550; AAA61284.1; JOINED.
 DR EMBL, M11551; AAA61284.1; JOINED.
 DR EMBL, M11552; AAA61284.1; JOINED.
 DR EMBL, M14623; AAA61288.1; -;
 DR EMBL, M14619; AAA61288.1; JOINED.
 DR EMBL, M14620; AAA61288.1; JOINED.
 DR EMBL, M14621; AAA61288.1; JOINED.
 DR EMBL, M14622; AAA61288.1; JOINED.
 DR EMBL, M36610; AAA61286.1; -;
 DR EMBL, M36606; AAA61286.1; JOINED.
 DR EMBL, M36607; AAA61286.1; JOINED.
 DR EMBL, M36608; AAA61286.1; JOINED.
 DR EMBL, M36609; AAA61286.1; JOINED.
 DR EMBL, BC009794; AAH09794.1; -;
 DR EMBL, M56634; AAA61287.1; -;
 DR EMBL, M54930; AAA61268.1; -;
 DR EMBL, M32162; AAA61285.1; -;
 DR EMBL, M31645; AAA61285.1; JOINED.
 DR PIR, A23286; YRHU.
 DR GeneW, HGNC:12693; VIP.
 DR MIM, 192320; -;
 DR GO, GO:0005184; F:neuropeptide hormone activity; TAS.
 DR GO, GO:0007589; P:fluid secretion; TAS.
 DR GO, GO:0007186; P:G-protein coupled receptor protein signalin. . .; TAS.
 DR GO, GO:0007048; P:oncogenesis; TAS.
 DR GO, GO:0008284; P:positive regulation of cell proliferation; TAS.
 DR InterPro, IPR000532; Glucagon.
 DR Pfam, PF00123; hormone2; 2.
 DR SMART, SMO0070; GLUCA; 2.
 DR PROSITE, PS00260; GLUCAGON; 2
 KM Glucagon family; Cleavage on pair of basic residues; Signal;
 KM Amidation; Hormone.
 FT SIGNAL 1 20 POTENTIAL.
 FT PROPEP 21 79
 FT PEPTIDE 81 107 INTERSTITIAL PEPTIDE PHM-27.
 FT PEPTIDE 81 122 INTERSTITIAL PEPTIDE PHV-42.
 FT PEPTIDE 125 152 VASOACTIVE INTERSTITIAL PEPTIDE.
 FT PROPEP 156 170
 FT MOD_RES 107 107 AMIDATION (G-108 PROVIDE AMIDE GROUP).
 FT MOD_RES 152 152 AMIDATION (G-153 PROVIDE AMIDE GROUP).
 FT CONFLICT 96 97 OL -> PP (IN REF. 7).
 FT CONFLICT 113 113 MISSING (IN REF. 6).
 FT CONFLICT 116 116 S -> L (IN REF. 4).
 FT CONFLICT 136 136 R -> G (IN REF. 4).
 FT CONFLICT 170 AA; 19168 MW; 93EC0177F89508FD CRC64;
 SQ SEQUENCE
 Query Match 39.5%; Score 85; DB 1; Length 170;
 Best local Similarity 40.5%; Pred. No. 0.00032;
 Matches 15; Conservative 11; Mismatches 11; Indels 0; Gaps 0;
 QY 1 YADAFITNSYKRVGOLSAKRLDIDMSROQGESENOE 37
 DB 81 HADGVTFSPFKLGLQLGSLAKYLESIMCKRVSSNISE 117
 RESULT 12
 PACA_MOUSE
 ID PACA_MOUSE STANDARD; PRT; 175 AA.
 AC 070176;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Pituitary adenylate cyclase activating polypeptide precursor (PACAP)
 DE [Contains: PACAP-related peptide (PRP-48); Pituitary adenylate cyclase
 DE activating polypeptide-27 (PACAP-27) (PACAP27); Pituitary adenylate
 DE cyclase activating polypeptide-38 (PACAP-38) (PACAP38)].
 GN ADCTAP OR PACAP.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;

```

RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=129/SvJ;
RX MEDLINE=98241502; PubMed=9573339;
RA Yamamoto K., Hashimoto H., Hagihara N., Nishino A., Fujita T.,
RA Matsuda T., Baba A.;
RT "Cloning and characterization of the mouse pituitary adenylate
RT cyclase-activating polypeptide (PACAP) gene.";
RL Gene 211:63-69(1998).
CC CC
CC -1- FUNCTION: STIMULATES ADENYLATE CYCLASE IN PITUITARY CELLS.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC -----
CC DR EMBL, AB010149; BAA28355.1; -.
CC GMD, MGI:105094; Adcyap1.
CC GO, GO:0045786; P.negative regulation of cell cycle; IDA.
CC InterPro, IPR000532; Glucagon.
CC DR Pfam, PF00123; hormone2; 2.
CC DR PRINTS, PR00275; GLUCAGON.
CC DR SMART, SMO0070; GLUCA; 2.
CC DR PROSITE, PS00260; GLUCAGON; 1.
CC KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
CC Amidation.
CC FT SIGNAL 1 24
CC FT PROPEP 25 78
CC FT PEPTIDE 81 128
CC FT PEPTIDE 131 157
CC FT PEPTIDE 131 157
CC FT PEPTIDE 131 168
CC FT MOD_RES 157 157
CC FT MOD_RES 168 168
CC FT MOD_RES 168 168
CC FT SEQUENCE 175 AA; 19381 MW; D0E2007B0C6E8C2 CRC64;
SQ
Query Match 39.5%; Score 85; DB 1; Length 175;
Best Local Similarity 54.5%; Pred. No. 0.00033;
Matches 18; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

OY 2 ADAFTNSYRKVLGQLSARKLQDIMSRQGES 34
DB 83 AHEILNEAYRKVLDTLSARKYLQSVAVRGAGEN 115

RESULT 13
PACA_RAT STANDARD; PRT; 175 AA.
ID PACA_RAT
AC P13589;
DT 01-JAN-1990 (Rel. 13, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Pituitary adenylate cyclase activating polypeptide precursor (PACAP)
DE [Contains: PACAP-related peptide (PRP-48); Pituitary adenylate cyclase
DE activating polypeptide-27 (PACAP-27) (PACAP27); Pituitary adenylate
DE cyclase activating polypeptide-38 (PACAP-38) (PACAP38)].
GN ADCYAP1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_Taxid=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Sprague-Dawley; TISSUE=Brain;
RX MEDLINE=91097560; PubMed=22683329;
RA Ogi K., Kimura C., Onda H., Arimura A., Fujino M.;

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RT "Molecular cloning and characterization of cDNA for the precursor of
RT rat pituitary adenylate cyclase activating polypeptide (PACAP).";
RL Biochem. Biophys. Res. Commun. 173:1271-1279(1990).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=Wistar; TISSUE=Testis;
RX MEDLINE=95136947; PubMed=7835287;
RA Hurley J.D., Gardiner J.V., Jones P.M., Bloom S.R.;
RA Culler M.D., Coy D.H.;
RT "Isolation of a novel 38 residue-hypothalamic polypeptide which
RT stimulates adenylate cyclase in pituitary cells.";
RL Biochem. Biophys. Res. Commun. 164:567-574(1989).
CC CC
CC -1- FUNCTION: STIMULATES ADENYLATE CYCLASE IN PITUITARY CELLS.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC DR EMBL, M63006; AAA41791.1; -.
CC EMBL, X80290; CAA56564.1; -.
CC PIR, A37786; A37786.
CC InterPro, IPR000532; Glucagon.
CC DR Pfam, PF00123; hormone2; 2.
CC DR PRINTS, PR00275; GLUCAGON.
CC DR SMART, SMO0070; GLUCA; 2.
CC DR PROSITE, PS00260; GLUCAGON; 1.
CC KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
CC Amidation.
CC FT SIGNAL 1 24
CC FT PROPEP 25 78
CC FT PEPTIDE 81 128
CC FT PEPTIDE 131 157
CC FT PEPTIDE 131 168
CC FT MOD_RES 157 157
CC FT MOD_RES 168 168
CC FT MOD_RES 168 168
CC FT CONFLICT 26 26
CC FT CONFLICT 26 26
CC FT SEQUENCE 175 AA; 19557 MW; 039894688602B04 CRC64;
SQ
Query Match 39.1%; Score 84; DB 1; Length 175;
Best Local Similarity 54.5%; Pred. No. 0.00045;
Matches 18; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

OY 2 ADAFTNSYRKVLGQLSARKLQDIMSRQGES 34
DB 83 AHEILNEAYRKVLDTLSARKYLQSVAVRGAGEN 115

RESULT 14
VIP_MOUSE STANDARD; PRT; 170 AA.
ID VIP_MOUSE
AC P32648;
DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1993 (Rel. 27, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vasoactive intestinal peptide precursor (VIP).
GN VIP.

```

```

OC Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OK NCBI_TaxID=10090;
RN (1)
RP SEQUENCE FROM N.A.
RX MEDLINE=91232388; PubMed=1851524;
RA Lampert E.D., Rosen K.M., Villa-Komaroff L.;
RT "Characterization of the gene and messages for vasoactive intestinal
RL polypeptide (VIP) in rat and mouse."
RL Brain Res. Mol. Brain Res. 9:217-231(1991).
RN (2)
RP SEQUENCE OF 1-36 FROM N.A.
RX STRAIN=C57BL/6; TISSUE=Spleen;
RX MEDLINE=95201289; PubMed=7894056;
RA Sena M., Bravo D.T., Agoston D., Waschek J.A.;
RT "High conservation of upstream regulatory sequences on the human and
RN mouse vasoactive intestinal peptide (VIP) genes."
RNA Seq. 5:25-29(1994)
CC -1- FUNCTION: VIP CAUSES VASODILATION, LOWERS ARTERIAL BLOOD
CC PRESSURE, STIMULATES MYOCARDIAL CONTRACTILITY, INCREASES
CC GLYCOGENOLYSIS AND RELAXES THE SMOOTH MUSCLE OF TRACHEA, STOMACH
CC AND GALL BLADDER.
CC -1- FUNCTION: PHM ALSO CAUSES VASODILATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC -----
DR EMBL; X74297; CAA52350.1; -.
DR PIR; A60037; A60037.
DR MCD; MGI:98933; VIP.
DR InterPro; IPR00532; Glucagon.
DR Pfam; PF00123; hormone2; 2.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUC; 2.
DR PROSITE; PS00260; GLUCAGON; 2.
DR Glucagon family; Cleavage on pair of basic residues; Signal;
KM Amidation; Hormone.
FT SIGNAL 1 21
FT PROPEP 22 79
FT PEPTIDE 81 107
FT PEPTIDE 81 122
FT PEPTIDE 125 152
FT PROPEP 156 170
FT MOD_RES 107 107
FT MOD_RES 152 152
FT CARBOHYD 133 133
SQ SEQUENCE 170 AA; 19048 MW; 0164C31FEF5C73D CRC64;
Query Match 38.1%; Score 82; DB 1; Length 170;
Best Local Similarity 37.8%; Pred. No. 0.00081;
Matches 14; Conservative 12; Mismatches 11; Indels 0; Gaps 0;
OY 1 YADALFTNSYRKVLGQLSARKLLQDIMSRQGSNOE 37
DB 81 HADGVFTSDYSRLLGLQISAKKYLESLIGKRISSTSE 117

```

GN VIP.
 OC Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OC NCBI_TaxId=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90244869; PubMed=2159586;
 RA Gliald E., Shani Y., Gozes I.;
 RT "The complete structure of the rat VIP gene."
 RL Brain Res. Mol. Brain Res. 7:261-267(1990).
 RN [2]
 RP SEQUENCE OF 9-170 FROM N.A.
 RC TISSUE=Brain cortex.
 RX MEDLINE=85154612; PubMed=3838518;
 RA Nishizawa M., Hayakawa Y., Yamahara N., Okamoto H.;
 RT "Nucleotide sequence divergence and functional constraint in VIP
 precursor mRNA evolution between human and rat."
 RL FEBS Lett. 183:55-59(1985).
 RN [3]
 RP SEQUENCE OF 78-155 FROM N.A.
 RX MEDLINE=91232388; PubMed=1851524;
 RA Lampertl E.D., Rosen K.M., Villa-Komaroff L.;
 RT "Characterization of the gene and messages for vasoactive intestinal
 peptide (VIP) in rat and mouse."
 RL Brain Res. Mol. Brain Res. 9:217-231(1991).
 RN [4]
 RP SEQUENCE OF 134-152.
 RX MEDLINE=88243784; PubMed=3379062;
 RA Goetzl E.J., Sreedharan S.P., Turck C.W.;
 RT "Structurally distinct vasoactive intestinal peptides from rat
 basophilic leukemia cells."
 RL J. Biol. Chem. 263:9083-9086(1988).
 CC -1- FUNCTION: VIP CAUSES VASODILATION, LOWERS ARTERIAL BLOOD
 PRESSURE, STIMULATES MYOCARDIAL CONTRACTILITY, INCREASES
 GLYCOGENOLYSIS AND RELAXES THE SMOOTH MUSCLE OF TRACHEA, STOMACH
 AND GALL BLADDER.
 CC -1- FUNCTION: PHI ALSO CAUSES VASODILATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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 CC EMBL; X02341; CAA26200.1; -.
 DR PIR; A60053; VRRP.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 2.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 DR Glucagon family; Glycoprotein; Amidation; Signal; Hormone;
 KM Cleavage on pair of basic residues.
 FT SIGNAL 1 21
 FT PROPEP 22 79
 FT PEPTIDE 81 107
 FT PEPTIDE 81 122
 FT PEPTIDE 125 152
 FT PROPEP 156 170
 FT MOD RES 107 107
 FT MOD RES 152 152
 FT CARBOHYD 68 68
 FT CARBOHYD 133 133
 SQ SEQUENCE 170 AA; 19079 MW; 202AE8E2EBBD190B CRC64;
 Query Match 38.1%; Score 82; DB 1; Length 170;
 Best Local Similarity 37.8%; Pred. No. 0.00081;
 Matches 14; Conservative 12; Mismatches 11; Indels 0; Gaps 0;

ID	Q9XS89	PRELIMINARY;	PRT;	28 AA.
AC	Q9XS89;			
DT	01-NOV-1999 (TREMBLrel. 12, Created)			
DT	01-NOV-1999 (TREMBLrel. 12, Last sequence update)			
DT	01-JUN-2001 (TREMBLrel. 17, Last annotation update)			
DE	Growth hormone-releasing factor (Fragment).			
GN	GHRH.			
OS	Equus caballus (Horse).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Perissodactyla; Equidae; Equus.			
OX	NCBI_TaxID=9796;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=99160468; PubMed=10051323;			
RA	Caetano A.R., Pomp D., Murray J.D., Bowling A.T.;			
RT	"Comparative mapping of 18 equine type I genes assigned by somatic			
RT	cell hybrid analysis.";			
RL	Mamm. Genome 10:271-276(1999).			
DR	EMBL; AF097587; AAD25990.1; -			
DR	InterPro; IPR000532; Glucagon.			
DR	Pfam; PF00123; hormone2; 1.			
DR	SMART; SMO0070; GLUCA; 1.			
FT	NON TER	1	1	
FT	NON TER	28	28	
SO	SEQUENCE	28 AA;	3223 MW;	D988D32A3CGEFC51 CRC64;

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Query Match      60.0%; Score 129; DB 6; Length 28;
Best Local Similarity 92.9%; Pred. No. 3,1e-10;
Matches 26; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
QY      2 ADAFTNSYRKVGLGOLSAARKLLQDMSR 29
      |||||:|||||:|||||:|||||:
Db      1 ADAFTNNYRKVGLGOLSAARKLLQDMSR 28

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ID	P79406	PRELIMINARY	PRT	26	AA
AC	P79406;				
DT	01-MAY-1997 (TEMBLrel. 03, Created)				
DT	01-DEC-2001 (TEMBLrel. 19, Last sequence update)				
DT	01-MAR-2003 (TEMBLrel. 23, Last annotation update)				
DE	Growth hormone-releasing hormone (Fragment).				
OS	Sus scrofa (Pig).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.				
OX	NCBI_TaxID=9823;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RA	Baskin L.C., Pomp D.;				
RT	"restriction fragment length polymorphism in amplification products of				
RL	the porcine growth hormone-releasing hormone gene.";				
DR	Submitted (FEB-1997) to the EMBL/Genbank/DBJ databases.				
DR	EMBL; U90275; AAB4991.1; -.				
DR	InterPro; IPR000532; Glucagon.				
DR	Pfam; PF00123; hormone2; 1.				
FT	NON_TER	1	1		
FT	NON_TER	1	1		
SQ	SEQUENCE	26	26		
	26 AA; 3012 MW; SC08273466CA4FC6 CRC64;				
Query Match		49.8%;	Score 107;	DB 6;	Length 26;
Best Local Similarity		95.7%;	Pred. No. 2.6e-07;		
Matches	22; Conservative	1;	Mismatches	0;	Indels
				0;	Gaps

QY 1 YADAIFTNSYRKVLGQLSARKLL 23
||:|||||
Db 4 YAAIAFTNSYRKVLGQLSARKLL 26

RESULT 4	
Q9TU30	
ID	PRELIMINARY;
Q9TU30	PRT; 41 AA

AC	09JUN30.55	
AD	01-MAY-2000 (TREMBLrel. 13, Created)	
AE	01-MAY-2000 (TREMBLrel. 13, Last sequence update)	
AF	01-MAR-2003 (TREMBLrel. 23, Last annotation update)	
AG	Growth hormone releasing hormone (Fragment).	
AH	GHRL	
AI	Bos taurus (Bovine).	
AJ	Eukaryota; Metazoa; Chordata; Craniata; Vertebrate; Euteleostomi;	
AK	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;	
AL	Bovidae; Bovinae; Bos.	
AM	NCBI_TaxId=9913;	
AN	[1]	
AO	SEQUENCE FROM N.A.	
AP	Lee S.H., Sang B.C., Kim H.B., Jin H.J., Kim S.K.;	
AQ	"The characterization and polymorphism of growth hormone releasing	
AR	hormone (GHRH) gene by the direct sequencing methods in cattle.";	
AS	Submitted (JUL-1999) to the EMBL/GenBank/DBJ databases.	
AT	EMBL, AF168666; AAD55252.1; -	
AV	InterPro; IPR000532; Glucagon.	
AW	Pfam; PF00123; hormone2; 1.	
AX	DR	
AY	DR	
AZ	DR	
BA	DR	
BB	DR	
BC	DR	
BD	DR	
BE	DR	
BF	DR	
BG	DR	
BH	DR	
BI	DR	
BJ	DR	
BK	DR	
BL	DR	
BM	DR	
BN	DR	
BO	DR	
BP	DR	
BQ	DR	
BR	DR	
BS	DR	
BT	DR	
BU	DR	
BV	DR	
BW	DR	
BX	DR	
BY	DR	
BZ	DR	
CA	DR	
CB	DR	
CC	DR	
CD	DR	
CE	DR	
CF	DR	
CG	DR	
CH	DR	
CI	DR	
CJ	DR	
CK	DR	
CL	DR	
CM	DR	
CN	DR	
CO	DR	
CP	DR	
CQ	DR	
CR	DR	
CS	DR	
CT	DR	
CU	DR	
CV	DR	
CW	DR	
CX	DR	
CY	DR	
CA	DR	
CB	DR	
CC	DR	
CD	DR	
CE	DR	
CF	DR	
CG	DR	
CH	DR	
CI	DR	
CJ	DR	
CK	DR	
CL	DR	
CM	DR	
CN	DR	
CO	DR	
CP	DR	
CQ	DR	
CR	DR	
CS	DR	
CT	DR	
CU	DR	
CV	DR	
CW	DR	
CX	DR	
CY	DR	
CA	DR	
CB	DR	
CC	DR	
CD	DR	
CE	DR	
CF	DR	
CG	DR	
CH	DR	
CI	DR	
CJ	DR	
CK	DR	
CL	DR	
CM	DR	
CN	DR	
CO	DR	
CP	DR	
CQ	DR	
CR	DR	
CS	DR	
CT	DR	
CU	DR	
CV	DR	
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CX	DR	
CY	DR	
CA	DR	
CB	DR	
CC	DR	
CD	DR	
CE	DR	
CF	DR	
CG	DR	
CH	DR	
CI	DR	
CJ	DR	
CK	DR	
CL	DR	
CM	DR	
CN	DR	
CO	DR	
CP	DR	
CQ	DR	
CR	DR	
CS	DR	
CT	DR	
CU	DR	
CV	DR	
CW	DR	
CX	DR	
CY	DR	
CA	DR	
CB	DR	
CC	DR	
CD	DR	
CE	DR	
CF	DR	
CG	DR	
CH	DR	
CI	DR	
CJ	DR	
CK	DR	
CL	DR	
CM	DR	
CN	DR	
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CV	DR	
CW	DR	
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CY	DR	
CA	DR	
CB	DR	
CC	DR	
CD	DR	
CE	DR	
CF	DR	
CG	DR	
CH	DR	
CI	DR	
CJ	DR	
CK	DR	
CL	DR	
CM	DR	
CN	DR	
CO	DR	
CP	DR	
CQ	DR	
CR	DR	</

Query Match	46.0%;	Score 99;	DB 6;	Length 41;
Best Local Similarity	100.0%;	Pred. No. 5,1e-06;		
Matches	20;	Conservative 0;	Mismatches 0;	Indels 0;
				Gaps 0;
Qy	1	YADAIFNNSYKXVIGQLSAR	20	
Db	21	YADAIFNNSYKXVIGQLSAR	40	

RESULT 5	Q9DEJ29	PRELIMINARY:	PRT:	172 AA.
ID	Q9DEJ29			
AC	Q9DEJ29;			
DT	01-MAR-2001 (TrEMBLrel. 16, Created)			
DT	01-MAR-2001 (TrEMBLrel. 16, Last sequence update)			
DT	01-MAR-2003 (TrEMBLrel. 23, Last annotation update)			
DE	Growth hormone-releasing hormone/pituitary adenylate cyclase-activating polypeptide.			
OS	ADCPAP1.			
CS	Brachydanio rerio (Zebrafish) (Danio rerio).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;			
OC	Cyprinidae; Danio.			
OX	NCBI_TaxID=7955;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RA	Fradinger E.A., Sherwood N.M.;			
RT	"Characterization of the gene encoding both growth hormone-releasing hormone (GRF) and pituitary adenylate cyclase-activating polypeptide (PACAP) in the zebrafish.";			
RL	Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.			
DR	EMBL: AF217251; AAC36789.1; -			
DR	ZFIN: ZDB-GENE-020809-4; adcyap1.			
DR	InterPro: IPR000532; Glucagon.			
DR	Pfam: PFD0123; hormone2. 2.			
DR	PRINTS; PRO0275; GLUCAGON.			
DR	SMART; SM00070; GLUCA. 2.			
DR	SMART; PS00260; GLUCAGON. 2.			
FT	CHAIN	81	125	GROWTH HORMONE-RELEASING HORMONE.
FT	CHAIN	128	165	PITUITARY ADENYLATE CYCLASE-ACTIVATING POLYPEPTIDE.
FT	CHAIN			
SQ	SEQUENCE	172 AA;	19558 MW;	458117F0042E36DD CRC64;

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Query Match      42.3% Score 91; DB 13; Length 172;  
Best Local Similarity 53.1%; Pred. No. 0.0003.  
Matches 17; Conservative 7; Mismatches 8; Indels 0; Gaps 0;
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Db 81 HADGMFNKAYRKALGQLSARKYLHTLMARVG 112

RESULT 6

Q988P5 PRELIMINARY; PRT; 173 AA.
 AC Q988P5; 01-JUN-2001 (TRENBLrel. 17, Created)
 DT 01-JUN-2001 (TRENBLrel. 17, Last sequence update)
 DE 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE Growth hormone-releasing hormone/pituitary adenylate cyclase-activating polypeptide.
 OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; OC Procacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 CC NCBI_TaxID=8022;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Krueckl S.L., Sherwood N.M.;
 RT "Temporal expression of grf/pacap during rainbow trout development.";
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF343976; AAK28557.1; -
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 2.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 SC SEQUENCE 173 AA; 19783 MW; 21D1A06A9C47F780 CRC64;

Query Match 42.1%; Score 90.5; DB 13; Length 173;
 Best Local Similarity 52.6%; Pred. No. 0.00035;
 Matches 20; Conservative 5; Mismatches 12; Indels 1; Gaps 1;

Qy 1 YDAIFNYSYKVLGQLSARKLQDIMS-ROOGESENOE 37
 Db 82 HADGMFNKAYRKALGQLSARKYLHSLMAKRVSGSGTME 119

RESULT 7

Q8MT77 PRELIMINARY; PRT; 170 AA.
 AC Q8MT77; 01-OCT-2002 (TRENBLrel. 22, Created)
 DT 01-OCT-2002 (TRENBLrel. 22, Last sequence update)
 DE 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE Vasopressin-like polypeptide precursor.
 OS Bos taurus (Bovine).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; OC Bovidae; Bovinae; Bos.
 CC NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=22092342; PubMed=12097482;
 RA Hamelink C., Lee H.-W., Chen Y., Grimaldi M., Biden L.E.;
 RT "Coincident elevation of cAMP and calcium influx by PACAP-27 synergistically regulates vasopressin-like polypeptide gene transcription through a novel PKA-independent signaling pathway.";
 RT J. Neurosci. 22:5310-5320(2002).
 RL EMBL; AF503910; AAM28152.1; -
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 2.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 2.
 DR PROSITE; PS00260; GLUCAGON; 2.
 DR SIGNAL.
 FT CHAIN 1 22 POTENTIAL.
 FT CHAIN 81 107 VIP.
 FT CHAIN 125 152 VIP.
 SC SEQUENCE 170 AA; 19164 MW; 9C6A6049A7BFFB1 CRC64;

Query Match 39.5%; Score 85; DB 6; Length 170;
 Best Local Similarity 40.5%; Pred. No. 0.0019;

Matches 15; Conservative 11; Mismatches 11; Indels 0; Gaps 0;

Qy 1 YDAIFNYSYKVLGQLSARKLQDIMS-ROOGESENOE 37
 Db 81 HADGVFTSYRLGQLSARKYLHSLGKRVNSISE 117

RESULT 8

Q8BT8 PRELIMINARY; PRT; 170 AA.
 AC Q8BT8; 01-MAR-2003 (TRENBLrel. 23, Created)
 DT 01-MAR-2003 (TRENBLrel. 23, Last sequence update)
 DE 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE Pituitary adenylate cyclase activating polypeptide precursor.
 OS Mus musculus (Mouse).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 CC NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA STRAIN=C57BL/6J; TISSUE=Hypothalamus;
 RX MEDLINE=22354683; PubMed=12466851;
 RA The FANTOM Consortium,
 RA The RIKEN Genome Exploration Research Group Phase I & II Team;
 RT "Analysis of the mouse transcriptome based on functional annotation of Nature 420:563-573(2002)."
 RL Nature 420:563-573(2002).
 DR EMBL; AK079530; BAC37673.1; -
 SC SEQUENCE 170 AA; 18764 MW; C6E8C2C2C860852 CRC64;

Query Match 39.5%; Score 85; DB 11; Length 170;
 Best Local Similarity 54.5%; Pred. No. 0.0019;
 Matches 18; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

Qy 2 ADAIFNYSYKVLGQLSARKLQDIMS-ROOGESENOE 34
 Db 83 AHEILNEAYRKVLQDLSARKYLQSVARCGAGEN 115

RESULT 9

Q9D227 PRELIMINARY; PRT; 171 AA.
 AC Q9D227; 01-JUN-2001 (TRENBLrel. 17, Created)
 DT 01-JUN-2001 (TRENBLrel. 17, Last sequence update)
 DE 01-OCT-2002 (TRENBLrel. 22, Last annotation update)
 DE Vasopressin-like polypeptide.
 OS Mus musculus (Mouse).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 CC NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA STRAIN=C57BL/6J; TISSUE=Cecum;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai U., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y., Aikawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S., Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanka I., Saito T., Okazaki Y., Gotohori T., Bono H., Kanukawa T., Saito R., Kadota K., Matsuda H.A., Ashburner M., Batilov S., Casavant T., Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H., Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J., Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T., Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G., Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F., Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M., Gietlinich S., Hill D., Hofmann M., Hume D.A., Kanliya M., Lee N.H., Lyons P., Marchionni L., Mashima Y., Mazarelli U., Momotetsu P., Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N., Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F., Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,

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RA Wyszaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohsuki S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
DR EMBL; AK018599; BAB31301.1; -.
DR MGD; MGI:98933; VapB.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 2.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 2.
DR PROSITE; PS00260; GLUCAGON; 2.
SQ SEQUENCE 171 AA; 19135 MW; 134A434DB6DF1254 CRC64;

Query Match
Best Local Similarity 38.1%; Score 82; DB 11; Length 171;
Matches 14; Conservative 12; Mismatches 11; Indels 0; Gaps 0;

QY 1 YADAIFTNSRYKVLGQLSARKLLQDIMSROQESNOE 37
DB 82 HADGVFTSDYSRLGQISAKKYLESLIGKRISSTSE 118

RESULT 10
ID Q98SP6 PRELIMINARY; PRT; 89 AA.
AC Q98SP6;
DT 01-JUN-2001 (TREMBLrel. 17, Created)
DT 01-JUN-2001 (TREMBLrel. 17, Last sequence update)
DE 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Growth hormone-releasing polypeptide/adenylate cyclase-activating
DE polypeptide (Fragment).
GN PACAP.
OS Anas platyrhynchos (Domestic duck).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Amniotes; Anas.
OX NCBI_TaxID=8839;
RN [1]
RP TISSUE=pituitary;
RC Colitti M., Mirabella N., Squillacioti C., Venturini E.;
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF343119; AAK1148.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 2.
DR SMART; SM00070; GLUCA; 2.
DR PROSITE; PS00260; GLUCAGON; 1.
FT NON_TER 1
FT NON_TER 89
SQ SEQUENCE 89 AA; 10263 MW; B618C2A865B85439 CRC64;

Query Match
Best Local Similarity 37.7%; Score 81; DB 13; Length 89;
Matches 17; Conservative 7; Mismatches 10; Indels 0; Gaps 0;

QY 9 SYRKVLGQLSARKLLQDIMSROQESNOERGARA 42
DB 6 SYRKLLGQISARKYHSHMAKRVGASGLGDEA 39

RESULT 11
ID Q9PUF8 PRELIMINARY; PRT; 171 AA.
AC Q9PUF8;
DT 01-MAY-2000 (TREMBLrel. 13, Created)
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE pituitary adenylate cyclase-activating peptide.
GN PACAP.
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
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RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=20419093; PubMed=10965909;
RA Hu Z., Lelièvre V., Tam J., Cheng J.W., Fuenzalida G., Zhou X.,
RA Waschek J.A.;
RT "Molecular cloning of growth hormone-releasing hormone/pituitary
RT adenylyl cyclase-activating polypeptide in the frog Xenopus laevis:
RT brain distribution and regulation after castration.";
RL Endocrinology 141:3366-3376(2000).
DR EMBL; AF187877; AAD56956.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 2.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 2.
DR PROSITE; PS00260; GLUCAGON; 1.
SQ SEQUENCE 171 AA; 19702 MW; C2388FDB36F24082C CRC64;

Query Match
Best Local Similarity 34.9%; Score 75; DB 13; Length 171;
Matches 15; Conservative 6; Mismatches 11; Indels 0; Gaps 0;

QY 1 YADAIFTNSRYKVLGQLSARKLLQDIMSROQG 32
DB 79 HADELNKVRNVLGHLISARKYHTLMAORLG 110

RESULT 12
ID Q94CE6 PRELIMINARY; PRT; 427 AA.
AC Q94CE6;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Hypothetical protein.
GN T8E24.3 OR AT3G06660.
OS Arabidopsis thaliana (Mouse-ear cress).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eurosids II; Brassicales; Brassicaceae; Arabidopsids.
OX NCBI_TaxID=3702;
RN [1]
RP SEQUENCE FROM N.A.
RA Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K.,
RA Goldsmith A.D., Lee J.M., Quach H.L., Tang C., Toriumi M., Yu G.,
RA Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida J.,
RA Jones T., Kamuya A., Karlin-Neumann G., Kawai J., Kim C., Koeseima E.,
RA Lam B., Lin J., Meyers M.C., Miranda M., Narusaka M., Nguyen M.,
RA Palm C.J., Sakurai T., Satou M., Seki M., Shim P., Southwick A.,
RA Shinozaki K., Davis R.W., Ecker J.R., Theologis A.;
RT "Full length cDNA of gene T8E24.3 (GI:12321911).";
RL Submitted (MAY-2001) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RA Yamada K., Banh J., Chan M.M., Chang C.H., Chang E., Dale J.M.,
RA Deng J.M., Goldsmith A.D., Lee J.M., Onodera C.S., Quach H.L.,
RA Tang C., Toriumi M., Wu H.C., Yamamura Y., Yu G., Bowser L.,
RA Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida J., Jones T.,
RA Kamuya A., Karlin-Neumann G., Kawai J., Kim C., Sakurai T., Satou M.,
RA Miranda M., Narusaka M., Nguyen M., Palm C.J., Sakurai T., Satou M.,
RA Seki M., Shim P., Southwick A., Shinozaki K., Davis R.W., Ecker J.R.,
RA Theologis A.;
RT "Arabidopsis Open Reading Frame (ORF) clones ";
RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY049622; AAKS9429.1; -.
DR EMBL; AY117257; AAMS1332.1; -.
DR InterPro; IPR006880; PAPAI.
DR Pfam; PF04795; PAPA-1; 1.
KW Hypothetical protein.
SQ SEQUENCE 427 AA; 46922 MW; 9CB33BAFB2C748B CRC64;

Query Match
Best Local Similarity 34.7%; Score 74.5; DB 10; Length 427;
Matches 19; Conservative 7; Mismatches 10; Indels 5; Gaps 1;
```

```
OY 2 ADAIFTSYKVLGQLSARKLQDIMSROQGESNOERGARA 42
DB 307 ABAI-----RKILGQDSGKHKREKIKKQGERAERARRS 342

RESULT 13
O9M7X3 PRELIMINARY; PRT; 432 AA.
AC O9M7X3;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE F3E32.21 protein.
GN F3E32.21
OS Arabidopsis thaliana (Mouse-ear cress).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eucoisids II; Brassicales; Brassicaceae; Arabidopsids.
OK NCBI_TaxID=3702;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. Columbia;
RA Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B., Wu D.,
RA Malt R., Romling C.M., Koo H., Fujii C.Y., Utecherback T.R.,
RA Barnstead M.E., Bowman C.L., White O., Nieman W.C., Frazer C.M.;
RT "Arabidopsis thaliana chromosome III BAC F3E22 genomic sequence.";
RL Submitted (JAN-2001) to the EMBL/Genbank/DBD databases.
DR EMBL; AC023912; AAF63832.1; -.
DR InterPro; IPR006880; PAPA1.
DR Pfam; PF04795; PAPA-1; 1.
SQ SEQUENCE 432 AA; 47448 MW; A3559ACPF86CF84 CRC64;

Query Match 34.7%; Score 74.5; DB 10; Length 432;
Best Local Similarity 46.3%; Pred. No. 0.14;
Matches 19; Conservative 7; Mismatches 10; Indels 5; Gaps 1;

OY 2 ADAIFTSYKVLGQLSARKLQDIMSROQGESNOERGARA 42
DB 312 ABAI-----RKILGQDSGKHKREKIKKQGERAERARRS 347

RESULT 14
O9C838 PRELIMINARY; PRT; 758 AA.
AC O9C838;
DT 01-JUN-2001 (TREMBlrel. 17, Created)
DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Hypothetical 81.5 kDa protein.
GN T8E24.3
OS Arabidopsis thaliana (Mouse-ear cress).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eucoisids II; Brassicales; Brassicaceae; Arabidopsids.
OK NCBI_TaxID=3702;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. Columbia;
RA MEDLINE=21016720; PubMed=1130713;
RA Salenouat M., Lemcke K., Rieger M., Ansgore W., Unselid M.,
RA Partmann B., Valle G., Bloeker H., Perez-Alonso M., Obermaier B.,
RA Delany M., Boutry M., Grivell L.A., Mache R., Puldomenech P.,
RA De Simone V., Choise N., Artiguenave F., Robert C., Broetier P.,
RA Winkler P., Cattolico L., Weisenbach J., Saurin W., Quetier F.,
RA Schaefer M., Mueller-Auer S., Gabel C., Fuchs M., Benes V.,
RA Wurmbach E., Drzonek H., Erfle H., Jordan N., Bangert S.,
RA Wiedemann R., Kranz H., Voss H., Holland R., Brandt P., Nyakatura G.,
RA Vezzi A., D'Angelo M., Pallavicini A., Toppi S., Simionati B.,
RA Conrad A., Hornischer K., Kauer G., Loehner T.-H., Nordstok G.,
RA Reichen J., Schaefer M., Schoen O., Barques M., Terol J., Clement J.,
RA Navarro P., Colado C., Perez-Perez A., Ottenwaelder B., Duchemin D.,
RA Cooke R., Laudie M., Berger-Llauro C., Purnelle B., Masny D.,
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RA de Haan M., Maarse A.C., Alcaraz J.-P., Cottet A., Casacuberta E.,
RA Montfort A., Argitrou A., Flores M., Lignori R., Vitale D.,
RA Mannheim G., Haase D., Schoof H., Rudd S., Zaccaria P., Mewes H.-W.,
RA Mayer K.F.X., Kaul S., Town C.D., Koo H.L., Talon L.J., Jenkins J.,
RA Rooney T., Rizzo M., Malt R., Utecherback T., Fujii C.Y., Shea T.P.,
RA Creasy T.H., Haas B., Malt R., Wu D., Peterson J., Van Aken S.,
RA Pal G., Miltscher J., Sellere P., Gill J.E., Feldlyum T.V.,
RA Pruss D., Lin X., Nieman W.C., Salzberg S.L., White O., Venter J.C.,
RA Fraser C.M., Kaneko T., Nakamura Y., Sato S., Kato T., Asamizu E.,
RA Saeemoto S., Kimura T., Igesawa K., Kawashima K., Kishida Y.,
RA Kiyokawa C., Kohara M., Matsumoto M., Matsuno A., Muraki A.,
RA Nakayama S., Nakazaki N., Shingo S., Takeuchi C., Wada T.,
RA Watanabe A., Yamada M., Yasuda M., Tabata S.;
RT "Sequence and analysis of chromosome 3 of the plant Arabidopsis
thaliana.";
RL Nature 408:820-822(2000).
DR EMBL; AC036106; AAG50990.1; -.
DR InterPro; IPR006880; PAPA1.
DR InterPro; IPR006501; PME_inhib.
DR Pfam; PF04795; PAPA-1; 1_inhib.
DR TIGRfam; TIGR01614; PME_inhib; 1.
KM Hypothetical protein.
SQ SEQUENCE 758 AA; 81507 MW; B7B2A7C776CB76E3 CRC64;

Query Match 34.7%; Score 74.5; DB 10; Length 758;
Best Local Similarity 46.3%; Pred. No. 0.25;
Matches 19; Conservative 7; Mismatches 10; Indels 5; Gaps 1;

OY 2 ADAIFTSYKVLGQLSARKLQDIMSROQGESNOERGARA 42
DB 638 ABAI-----RKILGQDSGKHKREKIKKQGERAERARRS 673

RESULT 15
O9OXZ4 PRELIMINARY; PRT; 175 AA.
AC O9OXZ4;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Growth hormone-releasing hormone/pituitary adenylate cyclase-
activating polypeptide precursor.
OS Ictalurus punctatus (Channel catfish).
OC Eukaryota; Metazoa; Chordata; Craniata;
OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Siluriformes;
OC Ictaluridae; Ictalurus.
OK NCBI_TaxID=7998;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE=21255738; PubMed=11356048;
RA Small B.C., Noneman D.;
RT "Sequence and expression of a cDNA encoding both pituitary adenylate
cyclase activating polypeptide and growth hormone-releasing hormone-
RT like peptide in channel catfish (Ictalurus punctatus).";
RL Gen. Comp. Endocrinol. 122:354-363(2001).
DR EMBL; AF321243; AAK6970.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 2.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 2.
DR PROSITE; PS00260; GLUCAGON; 1.
KW Signal.
FT SIGNAL 1 20 POTENTIAL.
FT CHAIN 84 128 GROWTH HORMONE-RELEASING HORMONE.
FT CHAIN 131 168 PITUITARY ADENYLATE CYCLASE-ACTIVATING
POLYPEPTIDE.
SQ SEQUENCE 175 AA; 20070 MW; PFE0EA226CB821C9 CRC64;
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OY 1 YADAIFTSYKVLGQLSARKLQDIMSROQGESNOERGARA 41
Query Match 30.7%; Score 66; DB 13; Length 175;
Best Local Similarity 29.3%; Pred. No. 0.69;
Matches 12; Conservative 13; Mismatches 16; Indels 0; Gaps 0;
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OW protein - protein search, using sw model

Run on: February 11, 2004, 11:47:18 ; Search time 41 Seconds
(without alignments)
170.341 Million cell updates/sec

Title: 09-786639
Perfect score: 215
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Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries

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24: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2003.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	215	100.0	44	5	AAAP40357
2	215	100.0	44	5	AAAP40416
3	215	100.0	44	6	AAAP50779
4	215	100.0	44	6	AAAP50395
5	215	100.0	44	10	AAAP90743
6	215	100.0	44	13	AAAR28761
7	215	100.0	44	16	AAAW13693
8	215	100.0	44	16	AAAW13695
9	215	100.0	44	16	AAAR69073

10	215	100.0	44	17	AAAY16426	Marker peptide for
11	215	100.0	44	17	AAAR89953	Target peptide (GR
12	215	100.0	44	17	AAAR89865	GRF(1-44) Noc sp
13	215	100.0	44	18	AAAR29414	Human growth hormo
14	215	100.0	44	18	AAAW19247	Chimeric fatty bod
15	215	100.0	44	19	AAW44704	Human GRF(1-44) an
16	215	100.0	44	20	AAAY29342	Human growth hormo
17	215	100.0	44	20	AAAR96968	Human growth hormo
18	215	100.0	44	20	AAW93124	Human growth hormo
19	215	100.0	44	20	AAAR96657	Chimeric fatty bod
20	215	100.0	44	21	AAAY83927	Human growth hormo
21	215	100.0	44	21	AAAY78106	Human growth hormo
22	215	100.0	44	22	AAAB73433	Human growth hormo
23	215	100.0	44	22	AAAB90937	Growth hormone rel
24	215	100.0	44	23	ABR07148	Growth hormone rel
25	215	100.0	44	24	AAE35249	Human mature growt
26	215	100.0	45	5	AAAP40121	Sequence encoded b
27	215	100.0	45	6	AAAP50183	Growth hormone rel
28	215	100.0	45	7	AAAP60716	Sequence encoded b
29	215	100.0	45	7	AAAP60091	TTP-hGRF(1-43)-Leu
30	215	100.0	45	7	AAAP60081	Sequence encoded b
31	215	100.0	45	11	AAAR6152	Sequence of human
32	215	100.0	45	12	AAAR11870	Human growth hormo
33	215	100.0	45	16	AAAR69078	Growth Hormone Rel
34	215	100.0	45	16	AAAR69074	Growth hormone rel
35	215	100.0	45	16	AAAR69083	Growth hormone rel
36	215	100.0	45	17	AAAR89651	Target peptide N-t
37	215	100.0	46	6	AAPE50371	Sequence of growth
38	215	100.0	49	17	AAAR89973	DDDX-GRF(1-44).
39	215	100.0	69	17	AAAR89699	GRF(1-44)Cys fusio
40	215	100.0	107	6	AAAP51097	Sequence of prepro
41	215	100.0	108	6	AAAP51098	Sequence of prepro
42	215	100.0	108	24	ABPE83377	Human growth hormo
43	215	100.0	122	17	AAAR89870	GRF(1-44)Cys (2-co
44	213	99.1	44	16	AAAR69082	Growth hormone rel
45	212	98.6	44	5	AAAP40450	Sequence of [Ileu27
46	212	98.6	44	6	AAAP50783	Sequence of growth
47	212	98.6	166	8	AAAP70358	Sequence encoded b
48	212	98.6	166	8	AAAP70052	Sequence of human
49	212	98.6	225	8	AAAP70359	Sequence encoded b
50	212	98.6	225	8	AAAP70061	Sequence of human
51	211	98.1	44	17	AAAY16427	Marker peptide for
52	211	98.1	44	19	AAAE62712	Growth hormone rel
53	211	98.1	44	23	ABR06680	Human VIP family p
54	210	97.7	44	6	AAPE50781	Sequence of growth
55	209	97.2	44	20	AAAY15812	Amino acid sequenc
56	209	97.2	44	6	AAAP50778	Sequence of growth
57	209	97.2	44	6	AAAP50780	Sequence of growth
58	209	97.2	44	20	AAAP53128	Human growth hormo
59	208	96.7	44	8	AAAP71495	Growth hormone rel
60	208	96.7	44	20	AAAR3127	Human growth hormo
61	208	96.7	44	22	AAAR30959	Growth hormone rel
62	208	96.7	45	7	AAPE60070	Sequence of growth
63	208	96.7	206	11	AAAR05866	Bovine growth horm
64	208	96.7	206	11	AAAR08028	Bovine growth horm
65	208	96.7	208	11	AAAR06209	Growth hormone rel
66	208	96.7	208	11	AAAR08027	Growth hormone rel
67	207	96.3	44	11	AAAR07732	Example of GRF pep
68	206	95.8	44	18	AAAR69081	Growth hormone rel
69	205	95.3	44	18	AAAW1611	Human growth hormo
70	204	94.9	44	8	AAAP71523	Growth hormone rel
71	204	94.9	44	9	AAAP83024	Sequence of human
72	204	94.9	45	8	AAAP70357	Sequence encoded b
73	202	94.0	41	16	AAAR95069	Growth Hormone Rel
74	202	94.0	41	17	AAAR89952	Target peptide (GR
75	202	94.0	44	6	AAAP50141	Sequence of synthe

ALIGNMENTS

RESULT 1
AAAP40357

```

ID AAP40357 standard; peptide; 44 AA.
XX
XX AAP40357;
AC
XX
XX 25-MAR-2003 (updated)
DT 03-OCT-2002 (updated)
DT 11-FEB-1992 (first entry)
XX
XX Sequence of synthetic peptides which release growth hormone.
XX
XX Human pancreatic growth hormone releasing factor; somatostatin;
XX somatoliberin; growth promoter; wound healing.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
XX Modified-site 1 /label= H-Tyr
XX
XX Misc-difference 41..44
XX /label= Arg,Arg-Ala,Arg-Ala-Arg,Arg-Ala-Arg-Leu
XX /note= "or des 41-42; bonded to OH or NH2"
XX
XX AUB315843-A.
XX
XX 22-DEC-1983.
XX
XX 16-JUN-1983; 83AU-0015843.
XX
XX 15-SEP-1982; 82US-0418248.
XX 16-JUN-1982; 82WO-US00812.
XX 16-JUN-1982; 82US-0000812.
XX
XX (SALK-) SALK INT BIOL STUD.
XX (SALK) SALK INST BIOLOGICAL STUDIES.
XX
XX Ling N, Esch FS, Bohlen P, Brazeau PE, Guillemin RCL;
XX WPI; 1984-037069/07.
XX
XX Synthetic peptide(s) which release growth hormone - from the
XX pituitary including PGRF (somatostatin) and related cpds.
XX
XX Claim 2; Page 24; 28pp; English.
XX
XX The peptides of the invention can be used to treat 'pituitary-
XX dwarf'; to assess GH secretory ability as a diagnostic procedure;
XX and in wound healing. They are also useful in aqua culture to
XX promote growth of cold-blooded animals. Dosages are 20-2000
XX nanograms/kg.
XX (Updated on 03-OCT-2002 to add missing OS field.)
XX (Updated on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 44 AA;
SQ
Query Match 100.0%; Score 215; DB 5; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Oy 1 YADAIPTNSYRKVIGQLSARKLQDIMSROGGSNORGARARL 44
Db 1 YADAIPTNSYRKVIGQLSARKLQDIMSROGGSNORGARARL 44

RESULT 2
AAP40416
ID AAP40416 standard; peptide; 44 AA.
XX
XX AAP40416;
AC
XX
XX 25-MAR-2003 (updated)
DT 24-JUL-1992 (first entry)
XX
XX Human pancreatic growth hormone-releasing factor.
DE

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```

XX
XX hPGRF; pancreas; secretion; dwarfism; antitumour drug; wound.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Peptide /label= I
XX Peptide /label= I
XX Peptide /label= II
XX Peptide /label= III
XX Peptide /label= IV
XX Peptide /label= V
XX Peptide /label= VI
XX Peptide /label= VII
XX Peptide /label= VIII
XX
XX JPS9161344-A.
XX
XX 12-SEP-1984.
XX
XX 03-MAR-1983; 83JP-0035616.
XX
XX 03-MAR-1983; 83JP-0035616.
XX
XX (SUMO) SUMITOMO CHEM CO LTD.
XX WPI; 1984-265887/43.
XX
XX Polypeptide useful for antitumour therapy - is e.g. human
XX pancreas growth hormone
XX
XX Claim 1; Page 1; 15pp; Japanese.
XX
XX Pregn. of hPGRF comprises (i) condensing protected derivs. of peptide
XX fragments I and II (see features); (ii) condensing the prod. with a
XX protected deriv. of peptide fragment III; (iii) subsequently condensing
XX with protected derivs. of peptide IV-VIII; and (iv) deprotecting
XX the prod.
XX The peptide may be isolated from the human pancreas. hPGRF has
XX strong growth hormone secretion-promoting action and is effective as
XX remedy for various growth hormone deficiencies such as dwarfism.
XX hPGRF is also useful as antitumour drug and for therapy of wounds.
XX The synthetic peptide may be purified by conventional methods. The
XX obtd. high purity prod. shows strong growth hormone-releasing
XX action.
XX (Updated on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 44 AA;
SQ
Query Match 100.0%; Score 215; DB 5; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Oy 1 YADAIPTNSYRKVIGQLSARKLQDIMSROGGSNORGARARL 44
Db 1 YADAIPTNSYRKVIGQLSARKLQDIMSROGGSNORGARARL 44

RESULT 3
AAP50779
ID AAP50779 standard; Protein; 44 AA.
XX
XX AAP50779;
AC
XX
XX 25-MAR-2003 (updated)
DT 27-NOV-1991 (first entry)
XX

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XX DE Sequence of growth hormone releasing factor (hGRF) analogues with
XX DE Met-27 substitution.
XX KW Growth promoter; dwarfism therapy; wound healing; lactation.
XX OS Homo sapiens.
XX FH Key
XX FT Modified-site 1 Location/Qualifiers
XX FT Modified-site 27 /label= H-Tyr
XX FT Modified-site 27 /label= Met(O),Met(Sme)
XX FT Modified-site 44
XX FT Modified-site 44 /label= Leu-OH
XX PN EP138416-A.
XX PD 24-APR-1985.
XX XX 20-SEP-1984; 84EP-0306432.
XX PF 21-SEP-1983; 83US-0534518.
XX PR (BLIL ) LILLY & CO BLI.
XX PA
XX XX DIMarch1 RD, Shaar CJ;
XX PI
XX DR WPI; 1985-100577/17.
XX PT New growth hormone releasing peptide - comprising hGRF analogues
XX PT with met-27 substitution
XX PS Claims 8 and 9; Page 31, 33pp; English.
XX CC The peptides of the invention are useful for treating dwarfism, bone
XX CC wasting diseases and catabolic states, for healing wounds and
XX CC fractures, and for promoting animal growth and milk prodn.
XX CC (Updated on 25-MAR-2003 to correct PA field.)
XX CC
XX SO Sequence 44 AA;

Query Match 100.0%; Score 215; DB 6; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNQRGAPARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNQRGAPARL 44

RESULT 4
AAP50395
ID AAP50395 standard; peptide; 44 AA.
XX AC AAP50395;
XX DT 25-MAR-2003 (updated)
XX DT 20-JAN-1992 (first entry)
XX DE Human pancreas growth hormone releasing factor.
XX KW Dwarfism; growth hormone deficiency; HP-GRF; biotin.
XX OS Synthetic.
XX OS JP60028997-A.
XX PN 14-FEB-1985.
XX PD 26-JUL-1983; 83JP-0137398.
XX PF 26-JUL-1983; 83JP-0137398.
XX PR 26-JUL-1983; 83JP-0137398.

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XX PA (SUMO ) SUMITOMO CHEM CO LTD.
XX DR WPI; 1985-077336/13.
XX KW Biotin-polypeptide human pancreas growth hormone releasing factor
XX PT - prepd. by condensing protected peptide with biotin then
XX PT de-protecting.
XX PS Claim 1; Page 827; 14pp; Japanese.
XX CC The growth hormone releasing factor has an N-terminal biotinyl group,
XX CC it is useful in the treatment of growth hormone deficiency and
XX CC dwarfism, and may also be used in the analysis of HP-GRF, its
XX CC receptors and Abs.
XX CC (Updated on 25-MAR-2003 to correct PA field.)
XX SO Sequence 44 AA;

Query Match 100.0%; Score 215; DB 6; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNQRGAPARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNQRGAPARL 44

RESULT 5
AAP90743
ID AAP90743 standard; peptide; 44 AA.
XX AC AAP90743;
XX DT 21-JUN-1990 (first entry)
XX DE Amino acid sequence of human growth hormone releasing factor (GRF) .
XX KW Human growth hormone releasing factor; pituitary dwarfism;
XX KW diabetes; growth promotion; lactation promoter; egg prodn. promoter
XX KW Homo sapiens.
XX OS EP307860-A.
XX PN EP307860-A.
XX PD 22-MAR-1989.
XX PF 13-SEP-1988; 88EP-0114948.
XX PR 18-SEP-1987; 87US-0098340.
XX PA (HOPF ) HOFFMANN-LA ROCHE AG.
XX PI Felix AM, Heimer EP;
XX DR WPI; 1989-087270/12.
XX DT Linear and cyclic growth hormone releasing factor analogues -
XX DT used for the treatment of growth-related disorders or enhancing
XX DT prodn. by animals
XX PS Disclosure; page 3; 16pp; English.
XX CC It is the sequence upon which the analogues claimed in the patent are
XX CC based.
XX SO Sequence 44 AA;

Query Match 100.0%; Score 215; DB 10; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNQRGAPARL 44

```

Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARGARL 44

RESULT 6

AAW13695
ID AAR28761 standard; peptide; 44 AA.

AC AAR28761;

DT 25-MAR-2003 (updated)

DT 23-MAR-1993 (first entry)

DE hGRF(1-44).

XX Growth hormone; releasing factor; GHRF; pituitary gland; potency;
KW alpha-helical; fowl; body fat content; anabolic processes; analogue;
KM burns.

XX Homo sapiens.

XX EP514210-A2.

XX 19-NOV-1992.

XX 15-MAY-1992; 92EP-0304437.

XX 15-MAY-1991; 91US-0701414.

XX (SALK) SALK INST BIOLOGICAL STUDIES.

XX Rivier JEF, Vale WW;

XX WPI; 1992-384037/47.

PT New growth hormone leasng factor peptide analogues - provide
PT release of growth hormone by pituitary gland for promoting growth
PT and in diagnosis

XX Disclosure; Page 2; 21pp; English.

XX The sequence given is the human growth hormone releasing factor (GHRF)
CC hGRF(1-44). This peptide has an influence on the function of the
CC pituitary gland in humans and other animals, and causes release of
CC growth hormone. Synthetic analogues of this peptide have increased
CC resistance to enzymatic degradation within the body, and exhibit
CC substantially increased potency (see also AAR28759-60 and AAR28763-73).
CC These analogues have an alpha-helical form which increases stability.
CC The peptides can be used in veterinary and human medicine, both
CC therapeutically and diagnostically. They can be used to promote the
CC growth of mammals, including fowl, and in agriculture. Administration
CC of the peptides may alter body fat content and may be used to stimulate
CC anabolic processes, eg. following burns.
CC (Updated on 25-MAR-2003 to correct PN field.)

XX Sequence 44 AA;

Query Match 100.0%; Score 215; DB 13; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARGARL 44

RESULT 7

AAW13693
ID AAW13693 standard; peptide; 44 AA.

AC AAW13693;

DT 25-MAR-2003 (updated)

DT 29-APR-1997 (first entry)

XX GRF(1-44) analogue, (D-A1a2)-hGRF(1-44).

XX Human pancreatic islet tumour derived growth hormone releasing factor;
KW hGRF; mammal; milk production; wool production; dairy cow; cattle;
XX growth rate; sheep; swine.

XX Synthetic.

XX Key Location/Qualifiers

FT Modified-site 2 /note= "D-form residue"

FT Modified-site 3 /note= "Opt. D-form residue"

FT Modified-site 44 /note= "Opt. amidated C-terminal"

FT Misc-difference 29..44 /note= "Opt. absent"

XX US5416073-A.

XX 16-MAY-1995.

XX 16-DEC-1985; 85US-0807821.

XX 10-AUG-1983; 83US-0522067.

XX 30-APR-1984; 84US-0605520.

XX 17-JAN-1985; 85US-0692082.

XX (TULA) TULANE EDUCATIONAL FUND.

XX Coy DH, Murphy WA;

XX WPI; 1995-193447/25.

PT New growth hormone-releasing factor analogues - used for increasing
PT the release of growth hormone and increasing growth rates in animals
XX Claim 38; Column 28; 16pp; English.

XX The sequences given in AAW13678-95 represent peptides based on the
CC generic human pancreatic islet tumour derived growth hormone releasing
CC factor (hGRF) sequences given in AAW13675-77. These peptides cause an
CC increase in the release of growth hormone levels in mammals. They may be
CC used for increasing milk production in dairy cows and increasing growth
CC rate in cattle, sheep, swine and other animals. The increase in activity
CC of these peptides is caused by replacing the amino acids in positions 1,
CC 2, 3, 8, 9, 10, 12, 21 and 27, and derivatising the N-terminal amino
CC acid of the wild type protein.
CC (Updated on 25-MAR-2003 to correct PF field.)
CC (Updated on 25-MAR-2003 to correct PR field.)

XX Sequence 44 AA;

Query Match 100.0%; Score 215; DB 16; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARGARL 44

RESULT 8

AAW13695
ID AAW13695 standard; peptide; 44 AA.

AC AAW13695;

DT 25-MAR-2003 (updated)

DT 29-APR-1997 (first entry)

DE GRP(1-44) analogue.
 XX
 XX Human pancreatic islet tumour derived growth hormone releasing factor;
 KM hGRF; mammal; milk production; wool production; dairy cow; cattle;
 KM growth rate; sheep; swine.
 XX
 OS Synthetic.
 XX
 XX
 PH Key Location/Qualifiers
 FT Modified-site 2 /note= "D-form residue, opt. modified by N-methyl"
 FT Modified-site 3 /note= "Opt. D-form residue"
 FT Misc-difference 29..44 /note= "Opt. absent"
 FT
 XX
 XX US5416073-A.
 PN
 XX
 XX 16-MAY-1995.
 PD
 XX
 XX 16-DEC-1985; 85US-0807821.
 PF
 XX 10-AUG-1983; 83US-0522067.
 PR 30-APR-1984; 84US-0605520.
 PR 17-JAN-1985; 85US-0692082.
 XX
 XX (TULANE) TULANE EDUCATIONAL FUND.
 PI
 XX Coy DH, Murphy WA;
 XX
 DR WPI, 1995-193447/25.
 XX
 PT New growth hormone-releasing factor analogues - used for increasing
 FT the release of growth hormone and increasing growth rates in animals
 XX
 XX Claim 45; Column 29; 16pp; English.
 PS
 XX The sequences given in AAM13678-95 represent peptides based on the
 CC generic human pancreatic islet tumour derived growth hormone releasing
 CC factor (hGRF) sequences given in AAM13675-77. These peptides cause an
 CC increase in the release of growth hormone levels in mammals. They may be
 CC used for increasing milk production in dairy cows and increasing growth
 CC rate in cattle, sheep, swine and other animals. The increase in activity
 CC of these peptides is caused by replacing the amino acids in positions 1,
 CC 2, 3, 8, 9, 10, 12, 21 and 27, and derivatising the N-terminal amino
 CC acid of the wild type protein.
 CC (Updated on 25-MAR-2003 to correct PR field.)
 CC
 CC (Updated on 25-MAR-2003 to correct PR field.)
 CC
 XX
 SQ Sequence 44 AA;
 Query Match 100.0%; Score 215; DB 16; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 YDAIFFTNSYRKVLGQLSARKLLDIMSROQGESNOERGARL 44
 DB 1 YDAIFFTNSYRKVLGQLSARKLLDIMSROQGESNOERGARL 44

XX
 OS Synthetic.
 XX
 XX Key Location/Qualifiers
 FT Modified-site 44 /label= Leu-NH2
 FT
 XX
 XX WO9503405-A2.
 PN
 XX
 XX 02-FEB-1995.
 PD
 XX
 XX 19-JUL-1994; 94WO-US08125.
 PF
 XX 20-JUL-1993; 93US-0095162.
 PR
 XX (BION-) BIONEERASKA INC.
 PA
 XX Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
 PI WPI, 1995-075233/10.
 DR
 XX
 XX Transpeptidation of recombinant polypeptides - using
 FT endopeptidase such as trypsin or thrombin to modify C-terminal
 PT residue.
 XX
 XX Claim 32; Page 44; 69pp; English.
 PS
 XX The native or naturally occurring sequence of growth hormone
 CC releasing factor is AAR69073. A pharmaceutical compn. of claimed.
 CC GRF(1-44)-NH2 produced by the method of the invention is claimed.
 CC A DNA sequence encoding a truncated core GRF polypeptide and the
 CC leaving unit -Ala-, for example GRF (1-41)-Ala-Arg-Leu-Ala, having
 CC the sequence in AAR69074, is synthesised by automated DNA methods,
 CC inserted in an expression vector and used to transform E.coli.
 CC The recombinant protein is separated and freeze dried. For
 CC purification and transpeptidation, purified 1-41-Ala peptide is
 CC (AAR69081) cleaved with thrombin in the presence of either
 CC Ala-Arg-Leu-NH2 or Ala-Arg-Leu-Gly. The GR sequence at residues
 CC 39-41 in GRF 1-41 (AAR69069) is a site recognised and cleaved by
 CC thrombin. The thrombin cleaves the Ala from the carboxyl terminus
 CC and forms an acyl-enzyme intermediate. Ala-Arg-Leu-NH2 or
 CC Ala-Arg-Leu-Gly act as a nucleophile transpeptidation occurs.
 CC In reaction 1, GRF (1-41)-Ala-Arg-Leu-Ala + Ala-Arg-Leu-NH2
 CC produces GRF (1-41) Ala-Arg-Leu-NH2 (AAR69082) + Ala-Arg-Leu-Ala,
 CC and in reaction 2, GRF (1-41)-Ala-Arg-Leu-Ala + Ala-Arg-Leu-Gly
 CC produces GRF (1-41) Ala-Arg-Leu-Gly (AAR69083) + Ala-Arg-Leu-Ala.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 CC
 XX
 SQ Sequence 44 AA;
 Query Match 100.0%; Score 215; DB 16; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 YDAIFFTNSYRKVLGQLSARKLLDIMSROQGESNOERGARL 44
 DB 1 YDAIFFTNSYRKVLGQLSARKLLDIMSROQGESNOERGARL 44

RESULT 10
 AAY16426
 ID AAY16426 standard; peptide; 44 AA.
 XX
 XX AAY16426;
 AC
 XX
 XX 06-AUG-1999 (first entry)
 DT
 XX
 XX Marker peptide for growth hormone releasing factor receptors.
 DE
 XX
 XX Marker peptide; growth hormone releasing factor receptor;
 KM hypothalamic pituitary dwarfism; burn; osteoporosis; renal failure;
 KM non-union bone fracture; debilitating illness; infection;
 KW wound healing; lactation failure; female infertility; cachexia; cancer;

KM T-cell immunodeficiency; neurodegenerative disease;
 KM growth hormone releasing factor; tumour; milk production; fur production;
 KM fluorescent probe.
 XX
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1 /note="N-alpha-FTC-Tyr"
 FT
 XX CA2158782-A.
 XX PN
 XX PD 24-MAR-1996.
 XX
 PF 21-SEP-1995; 95CA-2158782.
 XX
 PR 23-SEP-1994; 94US-0312244.
 XX
 PA (GAUD/) GAUDREAU P.
 XX
 PI Gaudreau P;
 DR WPI; 1996-269024/28.
 XX
 PT New fluorescence-labelled growth hormone-releasing factor peptide(s)
 PT - useful as probes for studying GRF receptors; also new antibodies
 PT specific for GRF receptor
 PS
 XX Claim 2; Page 55; 64pp; English.
 XX
 CC The present sequence represents a marker peptide for growth hormone
 CC releasing factor receptors. It is a specific example of the marker
 CC peptide described in AAV16425. The marker peptide is used for treating
 CC hypochalamic pituitary dwarfism, burns, osteoporosis, renal failure,
 CC non-union bone fracture, acute/chronic debilitating illness or
 CC infection, wound healing, reduction of the incidence of post-surgical
 CC problems, lactation failure, female infertility, cachexia in cancer
 CC patients, anabolic and/or catabolic problems, T-cell immunodeficiency,
 CC neurodegenerative diseases and growth hormone releasing factor
 CC receptor-independent tumours; for increasing muscle and/or decreasing
 CC body fat in animals; for enhancing milk production in cows and goats;
 CC or for increasing wool and/or fur production. The marker peptides are
 CC also useful as fluorescent probes for studying growth hormone releasing
 CC factor receptors.
 CC note: only amino acids 27 and 28 can be absent simultaneously.
 CC
 XX
 SQ Sequence 44 AA;
 Query Match 100.0%; Score 215; DB 17; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQOGESNQGARGARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQOGESNQGARGARL 44
 RESULT 11
 AAR98953
 ID AAR98953 standard; peptide; 44 AA.
 XX
 AC AAR98953;
 XX
 DT 15-JAN-1997 (first entry)
 XX
 DE Target peptide (GRF(1-44)) used in fusion protein construct.
 XX
 KM Fusion protein construct; isolation; purification;
 KM growth hormone releasing factor; glucagon-like peptide 1;
 KM parathyroid hormone; inclusion body; carbonic anhydrase.
 XX
 OS Synthetic.
 XX

PN W09617942-A1.
 XX
 PD 13-JUN-1996.
 XX
 PF 07-DEC-1995; 95WO-US15800.
 XX
 PR 07-DEC-1994; 94US-0350530.
 XX
 PA (BION-) BIONEBRASKA INC.
 XX
 PI De LA MOTTE RS, Henriksen DB, Holmquist B, Manning SD,
 PI Partridge BE, Stout JS, Wagner FW;
 DR WPI; 1996-287186/29.
 XX
 PT Isolation and purification of peptide(s) from fusion protein constructs
 PT - which include a carbonic anhydrase and a variable fused
 PT polypeptide
 PS
 XX Claim 51; Page 47; 67pp; English.
 XX
 CC A new method for the isolation and/or purification of a recombinant
 CC peptide employs a fusion protein construct (FPC) comprising a
 CC carbonic anhydrase and a variable fused polypeptide containing a
 CC target peptide. The method comprises precipitating either the FPC or
 CC a fragment of the FPC including the carbonic anhydrase. An
 CC alternative method of producing the peptide comprises expressing the
 CC FPC as part of an inclusion body. The target peptides of the FPC are
 CC derived from growth hormone releasing factor (GRF), glucagon-like
 CC peptide 1 (GPI) or parathyroid hormone (PTH). This sequence
 CC corresponds to amino acids 1-44 of GRF.
 CC
 XX
 SQ Sequence 44 AA;
 Query Match 100.0%; Score 215; DB 17; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQOGESNQGARGARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQOGESNQGARGARL 44
 RESULT 12
 AAR98965
 ID AAR98965 standard; Peptide; 44 AA.
 XX
 AC AAR98965;
 XX
 DT 02-DEC-1996 (first entry)
 XX
 DE GRF(1-44).
 XX
 KM GRF, C-amide; C-amidated peptide; alpha-carboxamide;
 KM recombinant protein; fusion protein; transpeptidation.
 XX
 OS Not specified.
 XX
 PN W09617941-A2.
 XX
 PD 13-JUN-1996.
 XX
 PF 07-DEC-1995; 95WO-US15799.
 XX
 PR 07-DEC-1994; 94US-0350528.
 XX
 PA (BION-) BIONEBRASKA INC.
 XX
 PI Henriksen DB, Holmquist B, Partridge BE, Stout JS;
 PI Wagner FW;
 DR WPI; 1996-287185/29.
 XX

PT Production of C-terminal alpha-carboxamidated peptide(s) - by
 PT cleavage and transpeptidation of recombinant multicopy peptide(s) or
 PT fusion constructs
 XX
 XX Claim 12; Page 70; 93pp; English.
 CC GLP1 (7-35), GRP (1-44) and PTH(1-34) peptides (AAR98964-66) can be
 CC produced as C-terminal amidated peptides utilizing novel recombinant
 CC protein constructs (see also AAR98967-72) in which single or multiple
 CC copies of the peptide are linked by intrconnecting peptides that
 CC permit the construct to be selectively reacted to produce product
 CC peptides having a C-terminal alpha-carboxamide. Expression cassettes
 CC (see also AAT34865-70) can be incorporated into vectors allowing prodn.
 CC of the recombinant proteins in transformed E. coli host cells.
 XX
 XX Sequence 44 AA;
 SQ
 Query Match 100.0%; Score 215; DB 17; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNQRGARARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNQRGARARL 44
 RESULT 13
 AAW29414
 ID AAW29414 standard; peptide; 44 AA.
 AC AAW29414;
 XX
 XX 24-FEB-1998 (first entry)
 DT
 XX Human growth hormone releasing factor peptide segment 1-44.
 DB
 XX Human growth hormone releasing factor; GRF; peptide synthesis;
 XX Human growth hormone releasing factor; GRF; peptide synthesis;
 XX pituitary dwarfism; renal insufficiency; Turner's syndrome;
 XX short stature; milk production; animal growth.
 XX
 OS Synthetic.
 OS Homo sapiens.
 OS
 FH Key Location/Qualifiers
 FT Modified-site 44
 FT /note= "C-terminal amide"
 FT
 XX WO9717367-A1.
 XX
 XX 15-MAY-1997.
 PD
 XX 28-OCT-1996; 96WO-CA00712.
 PF
 XX 03-NOV-1995; 95US-0552596.
 PR
 XX (THER-) THERATECHNOLOGIES INC.
 PA
 XX Brazeau P, Ibea M;
 PI
 XX WPI, 1997-280981/25.
 DR
 XX
 XX Production of growth hormone releasing factor peptide(s) - by
 PT coupling of GRF peptide segments on a solid phase to produce high
 PT yields of the GRF peptides.
 PT
 XX
 XX Disclosure; Page 21; 32pp; English.
 PS
 XX This sequence represents human growth hormone releasing factor (GRF)
 CC peptide segment 1-44-NH2. This peptide is synthesized in a new high yield
 CC process for manufacturing (Gly or Ala)15 or 32GRF containing peptide. The
 CC method comprises the steps of (a) synthesis of 14 to 15 residues of fully
 CC protected GRF peptide acidic segments (S1)-OH and (S2)-OH from aspartin
 CC resin, using sequential Fmoc chemistry; (b) synthesis of 12 to 15

CC residues of side chain protected GRF peptide amide segments (S3)-NH-,
 CC (S4)-NH- and/or (S5)-NH- on solid phase using a trifluoroacetic acid
 CC sensitive resin; and (c) one or two coupling steps of the synthesized
 CC GRF peptide segments of steps (a) and (b) on a solid phase. The GRF
 CC peptides can be used for stimulating growth hormone release e.g. for
 CC stimulating growth in children with pituitary dwarfism, renal
 CC insufficiencies, Turner's syndrome or short stature, and for stimulating
 CC growth of animals and increasing milk production in cows. This segment
 CC coupling method can provide the GRF peptides in high yields compared with
 CC step by step coupling.
 XX
 XX Sequence 44 AA;
 SQ
 Query Match 100.0%; Score 215; DB 18; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNQRGARARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNQRGARARL 44
 RESULT 14
 AAW19247
 ID AAW19247 standard; peptide; 44 AA.
 AC AAW19247;
 XX
 XX 25-MAR-2003 (updated)
 DT
 DT 13-AUG-1997 (first entry)
 XX
 XX Chimeric fatty body pro-growth hormone releasing factor analogue.
 DE
 XX Chimeric; fatty body; pro-GRF; growth hormone; releasing factor;
 XX analogue; induction; release; increase; treatment; pituitary;
 XX dwarfism; growth retardation; wound; osteoporosis; improvement;
 XX protein anabolism; bone; healing; diagnosis; deficiency;
 XX biodegradable; non-immunogenic; potency; prolonged activity.
 XX
 OS Synthetic.
 OS
 FH Key Location/Qualifiers
 FT Modified-site 1
 FT /note= "cis or trans CH3-CH2-CH=CH-CO-Tyr"
 FT Modified-site 44
 FT /note= "NH2-Leu"
 FT
 XX WO9637514-A1.
 XX
 XX 28-NOV-1996.
 PD
 XX 22-MAY-1996; 96WO-CA00327.
 PF
 XX 22-MAY-1996; 96US-0651645.
 PR
 XX 26-MAY-1995; 95US-0453067.
 PR
 XX (THER-) THERATECHNOLOGIES INC.
 PA
 XX Ibea M, Abribat T, Brazeau P;
 PI
 XX WPI, 1997-021141/02.
 DR
 XX
 XX New growth hormone releasing factor analogues - having N-terminal
 PT hydrophobic tail for increased biological potency and prolonged
 PT activity.
 PT
 XX
 XX Claim 11; Page 43; 55pp; English.
 PS
 XX The present sequence is a chimeric fatty body pro-growth
 CC hormone releasing factor (GRF) analogue, which can be used to
 CC induce growth hormone (GH) release, or increase GH levels, e.g. in
 CC the treatment of pituitary dwarfism, growth retardation, wounds,
 CC osteoporosis or to improve protein anabolism or bone healing, or to

CC diagnose GH deficiencies. It is biodegradable and non-immunogenic,
 CC exhibits an improved anabolic potency with a reduced dosage and has
 CC a prolonged activity compared to other GRF analogues.
 CC (Updated on 25-MAR-2003 to correct PI field.)

XX Sequence 44 AA;

Query Match 100.0%; Score 215; DB 18; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLDIMSROGGSNOERGARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLDIMSROGGSNOERGARL 44

RESULT 15

AAW44704 ID AAW44704 standard; protein; 44 AA.

XX AAW44704;

XX 12-MAY-1998 (first entry)

XX Human GRF(1-44) analogue.

XX Human; growth hormone releasing factor; analogue; catabolic state;
 XX traumatic injury; somatostatin inhibitor; androgenic sex hormone.

XX Synthetic.

XX Homo sapiens.

XX Key Location/Qualifiers

XX Modified-site 44 /note= "optionally contains C-terminal amide"

XX US5700775-A.

XX 23-DEC-1997.

XX 24-MAR-1995; 95US-0410353.

XX 24-MAR-1995; 95US-0410353.

XX (COOL/) COOLIDGE T R.

XX (GUTN/) GUTNIJAK M K.

XX (RECK/) RECKER R R.

XX (WAGN/) WAGNER F W.

XX Coolidge TR, Gutniak MK, Recker RR, Wagner FW;

XX WPI; 1998-062415/06.

XX Claim 1, 6; Column 5-6; 7pp; English.

XX This is the amino acid sequence of the N-terminal residues 1-44 of the
 CC human Growth hormone Releasing Factor (GRF). The invention relates to
 CC the use of GRF analogues (see AAW44704-W44711) for reducing the time
 CC that a patient remains in a catabolic state after traumatic injury, e.g.
 CC surgery. The analogue can be administered to the patient, with the
 CC proviso that a somatostatin inhibitor is given before the GRF(1-44)-NH2
 CC analogue, or in combination with androgenic sex hormones.

XX Sequence 44 AA;

Query Match 100.0%; Score 215; DB 19; Length 44;

Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLDIMSROGGSNOERGARL 44

DB 1 YADAFITNSYRKVLGQLSARKLLDIMSROGGSNOERGARL 44

RESULT 16

AAV29342 ID AAV29342 standard; peptide; 44 AA.

XX AAV29342;

XX 01-OCT-1999 (first entry)

XX Human growth hormone releasing factor peptide.

XX Chimeric fatty body growth hormone releasing factor; GRF; anabolic;
 KW diagnosis; osteopathic; anorectic; vulnery; pituitary dwarfism;
 KW growth retardation; osteoporosis; lipolytic; somatotroph function;
 KW growth hormone deficiency.

XX Homo sapiens.

XX Key Location/Qualifiers

XX Modified-site 44 /note= "amidated"

XX US5939386-A.

XX 17-AUG-1999.

XX 23-AUG-1996; 96US-0702113.

XX 23-AUG-1996; 96US-0702113.

XX 26-MAY-1995; 95US-0453067.

XX 22-MAY-1996; 96US-0651645.

XX (THER-) THERATECHNOLOGIES INC.

XX Abibat T, Brazeau P, Ibea M;

XX WPI; 1999-468409/39.

XX A chimeric fatty body growth hormone releasing factor (GRF) analog
 FT with increased biological potency, useful as an anabolic agent in
 PT the treatment of growth hormone deficiencies

XX Disclosure; Column 3-4; 13pp; English.

XX The present invention describes chimeric fatty body growth hormone-
 CC releasing factor (GRF) analogues. The analogues have anabolic,
 CC osteopathic, anorectic and vulnery activity. They are useful for
 CC treating pituitary dwarfism/growth retardation, osteoporosis, improving
 CC a lipolytic effect, upgrading somatotroph function, and for diagnosing
 CC growth hormone deficiencies. The analogues are biodegradable, non-
 CC immunogenic and have an improved anabolic potency with a reduced dosage
 CC and prolonged activity. The present sequence represents a human
 CC GRF peptide given in the present invention.

XX Sequence 44 AA;

Query Match 100.0%; Score 215; DB 20; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLDIMSROGGSNOERGARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLDIMSROGGSNOERGARL 44

RESULT 17

AAW99698 ID AAW99698 standard; protein; 44 AA.

XX AAW99698;

XX 03-JUN-1999 (first entry)
 XX Human growth hormone-releasing factor.
 DE Growth hormone-releasing factor; GRF; hGRF; bGRF; growth deficiency;
 XX wound healing; milk production; meat production; dairy; wool growth.
 KW Homo sapiens.
 XX CA1340077-C.
 PN 06-OCT-1998.
 XX 28-JUL-1987; 87CA-0543147.
 PF 28-JUL-1987; 87CA-0543147.
 XX 28-JUL-1987; 87CA-0543147.
 XX (BOEH) BOEHRINGER INGELHEIM CANADA LTD.
 XX Gauchier JA, Rakhit S;
 XX WPI; 1999-181490/16.
 DR New human or bovine growth hormone-releasing factors - have
 XX rearranged amino acid positions at 17 (Ser) and 18 (Leu), useful for
 PT treating growth deficiency, healing wounds and improving milk and
 PT meat production of herds
 XX Disclosure; Page 2; 29pp; English.
 XX The present invention describes a human or bovine growth hormone-
 CC releasing factor (h/bGRF) (I) with rearranged amino acids at positions
 CC 17 and 18 i.e. Ser at 17 and Leu at 18. (I) and its salts are useful as
 CC pharmaceutical compositions for stimulating the release of growth
 CC hormone in an animal e.g. for prepubertal growth hormone deficiency in
 CC humans, and for healing wounds, improving milk production in dairy
 CC herds, improving the quality of meat in meat-producing animals, for
 CC increasing wool growth, and for improving feed efficiency in meat-
 CC producing animals and dairy cows. (I) can also be used diagnostically to
 CC evaluate pituitary function. The new peptide (I) is more potent and
 CC cheaper to prepare than native GRF. (I) was found to be four times more
 CC potent than native GRF when administered to four-day old rat anterior
 CC pituitary cells. The present sequence represents human GRF (hGRF).
 XX Sequence 44 AA;
 SQ
 Query Match 100.0%; Score 215; DB 20; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSGESNOEGARRL 44
 DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSGESNOEGARRL 44
 RESULT 18
 ID AAM93124 standard; peptide; 44 AA.
 XX AAM93124;
 AC 20-MAY-1999 (first entry)
 XX Human growth hormone releasing factor peptide #1.
 DE Growth hormone releasing factor; GRF; human; treatment; osteoporosis;
 KW hypochalamic pituitary dwarfism; burn; renal failure; infection; wound;
 KW non-union bone fracture; lactation failure; female infertility; cachexia;
 KW cancer; anabolic; catabolic; T-cell immunodeficiency; tumour; marker;
 KW neurodegenerative condition; post-surgery.
 XX Homo sapiens.

XX US5854216-A.
 PN 29-DEC-1998.
 XX 24-JUL-1996; 96US-0685357.
 PF 24-JUL-1996; 96US-0685357.
 XX 23-SEP-1994; 94US-0312244.
 XX (UTMO-) UNIV MONTREAL.
 XX Gaudreau P;
 XX WPI; 1999-094967/08.
 DR New polypeptide derivatives are growth hormone releasing factor
 XX receptor agonists - useful for treatment of e.g. dwarfism, burns,
 PT osteoporosis, renal failure, infections, infertility, cachexia and
 PT tumours
 XX Disclosure; Column 31-32; 26pp; English.
 XX This invention describes novel polypeptides of formula RaxRb where
 CC X = C(=O), HNC(=S), HNC(=O)CH2 or CH2; Ra = fluorescein, rhodamine,
 CC Texas red, a 'Bodipy' (RTM), 'Cascade Blue' (RTM), coumarin,
 CC phycoerythrin, eosin or roseamine; and Rb = a polypeptide of 29 or
 CC 30 amino acids selected from 26 sequences given in the specification.
 CC Such peptides are useful for the treatment of hypochalamic pituitary
 CC dwarfism, burns, osteoporosis, renal failure, non-union bone fracture,
 CC acute or chronic debilitating illness or infection, wounds, lactation
 CC failure, infertility in women, cachexia in cancer patients, anabolic
 CC and/or catabolic problems, T-cell immunodeficiencies, neurodegenerative
 CC conditions or for reduction of the incidence of post-surgical problems
 CC and as markers for GRF receptors.
 XX Sequence 44 AA;
 SQ
 Query Match 100.0%; Score 215; DB 20; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSGESNOEGARRL 44
 DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSGESNOEGARRL 44
 RESULT 19
 ID AAM93667 standard; peptide; 44 AA.
 XX AAM93667;
 AC 30-MAR-1999 (first entry)
 XX Chimeric fatty body/GRF analogue.
 DE Chimeric fatty body growth hormone releasing factor analogue;
 KW chimeric fatty body/GRF analogue; anabolic; diagnosis; wound healing;
 KW growth hormone deficiency; pituitary dwarfism; growth retardation;
 KW bone healing; osteoporosis; lipolytic; obesity; somatroph function.
 XX Homo sapiens.
 OS Synthetic.
 XX Key Location/Qualifiers
 XX Modified-site 1
 FT /note= "Tyr is N-terminally modified to
 FT C18/TransCH3-CH2-CH=CH-CO-"
 FT Modified-site 44
 FT /note= "amidated"
 XX

PN US5861379-A.
 XX
 PD 19-JAN-1999.
 XX
 XX 23-AUG-1996; 96US-0702114.
 PE
 XX 23-AUG-1996; 96US-0702114.
 PR 26-MAY-1995; 95US-0453067.
 PR 22-MAY-1996; 96US-0651645.
 XX
 PA (THER-) THERATECHNOLOGIES INC.
 XX
 PI Abribat T, Brazeau P, Ibea M;
 XX
 DR WPI, 1999-130417/11.
 XX
 PT N-terminally acylated growth hormone releasing factor analogues -
 PT useful for e.g. inducing growth hormone release, diagnosis of growth
 PT hormone deficiency, treatment of pituitary dwarfism or growth
 PT retardation, and osteoporosis
 XX
 PS Claim 5; Column 23; 18pp; English.
 XX
 CC The present sequence represents a chimeric fatty body growth hormone
 CC releasing factor (GRF) analogue from the present invention, where the
 CC analogue has increased biological potency. Chimeric fatty bodyGRF
 CC analogues can be used for: (1) inducing growth hormone release; (2) for
 CC increasing growth hormone levels; (3) for diagnosis of growth hormone
 CC deficiency; (4) for treatment of pituitary dwarfism or growth hormone
 CC retardation; (5) for wound or bone healing; (6) for treatment of
 CC osteoporosis; (7) for improving protein anabolism in humans or animals;
 CC (8) for inducing a lipolytic effect in obese humans or animals; and (9)
 CC for the overall upgrading of somatroph function in humans or animals.
 XX
 SQ Sequence 44 AA;

 Query Match 100.0%; Score 215; DB 20; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

 Oy 1 YADAFITNSYRKVIGQLSARKLIDIMSRQGESNBERGARL 44
 Db 1 YADAFITNSYRKVIGQLSARKLIDIMSRQGESNBERGARL 44

 RESULT 20
 AAY83927
 ID AAY83927 standard; peptide; 44 AA.
 XX
 AC AAY83927;
 XX
 DT 05-JUL-2000 (first entry)
 XX
 DE Human growth hormone releasing factor.
 XX
 KW Osteopathic; endocrine; anorectic; vulnery; anabolic; hydrophobic;
 KW growth hormone releasing factor analogue; GRF; pituitary dwarfism;
 KW growth retardation; wound healing; bone healing; osteoporosis; animal;
 KW human; protein anabolism; clinical obesity; somatroph function.
 XX
 OS Homo sapiens.
 XX
 PN WO200014236-A2.
 XX
 PD 16-MAR-2000.
 XX
 PF 07-SEP-1999; 99WO-CA00816.
 XX
 PR 08-SEP-1998; 98US-0148982.
 PR 03-SEP-1999; 99US-0389486.
 XX
 PA (THER-) THERATECHNOLOGIES INC.
 XX

PI Gravel D, Habi A, Brazeau P;
 XX
 DR WPI, 2000-302943/26.
 XX
 PT Novel growth hormone releasing factor (GRF) analogs, useful for the
 PT diagnosis and treatment of growth hormone deficiencies, osteoporosis,
 PT obesity, etc., have enhanced biological activity and are active for a
 PT prolonged period of time -
 XX
 PS Disclosure; Page 4; 81pp; English.
 XX
 CC This sequence represents the human growth hormone releasing factor
 CC (GRF). The invention relates to the generation of a GRF analogue
 CC (AAY83926) used for the manufacture of a medicament for increasing the
 CC level of growth hormone in a patient, especially for the treatment of
 CC pituitary dwarfism or growth retardation, wound or bone healing, and
 CC osteoporosis, improving protein anabolism in human or animal, inducing a
 CC lipolytic effect in human or animal afflicted with clinical obesity, and
 CC overall upgrading of somatroph function in human or animal.
 XX
 SQ Sequence 44 AA;

 Query Match 100.0%; Score 215; DB 21; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

 Oy 1 YADAFITNSYRKVIGQLSARKLIDIMSRQGESNBERGARL 44
 Db 1 YADAFITNSYRKVIGQLSARKLIDIMSRQGESNBERGARL 44

 RESULT 21
 AAY78106
 ID AAY78106 standard; peptide; 44 AA.
 XX
 AC AAY78106;
 XX
 DT 28-APR-2000 (first entry)
 XX
 DE Human growth hormone releasing factor peptide SEQ ID NO.1.
 XX
 KW Hydrophobic; growth hormone releasing factor; GRF; anabolic;
 KW diagnosis; osteopathic; lipolytic; growth hormone deficiency;
 KW pituitary dwarfism; growth retardation; osteoporosis; obesity;
 KW somatroph function.
 XX
 OS Homo sapiens.
 XX
 XX Key Location/Qualifiers
 XX Modified-site 44
 XX /note= "amdated"
 XX
 PN US6020311-A.
 XX
 PD 01-FEB-2000.
 XX
 PF 08-SEP-1998; 98US-0148982.
 XX
 PR 26-MAY-1995; 95US-0453067.
 PR 22-MAY-1996; 96US-0651645.
 PR 23-AUG-1996; 96US-0702113.
 PR 23-AUG-1996; 96US-0702114.
 XX
 PA (THER-) THERATECHNOLOGIES INC.
 XX
 PI Gravel D, Brazeau P;
 XX
 DR WPI, 2000-146893/13.
 XX
 PT Hydrophobic growth hormone-releasing factor analogs useful for
 PT increasing the level of growth hormone in a patient, diagnosing growth
 PT hormone deficiencies, and treating wound, bone healing or osteoporosis

PS Disclosure; Column 3-4; 23pp; English.

XX The present invention describes a hydrophobic growth hormone-releasing
 CC factor (GRF) analogue, which has a hydrophobic tail anchored to a GRF
 CC peptide by an amide bond. The sequence given in AA78105 represents the
 CC formula for the GRF peptide. The GRF analogue is useful for increasing
 CC the level of growth hormone in a patient, diagnosing growth hormone
 CC deficiencies, treating pituitary dwarfism or growth retardation,
 CC treating wound or bone healing, treating osteoporosis, improving protein
 CC anabolism in human or animal, inducing a lipolytic effect in human or
 CC animal inflixed with clinical obesity and the overall upgrading of
 CC somatroph function in human or animal. The present sequence represents
 CC a human GRF peptide.

SQ Sequence 44 AA;

Query Match 100.0%; Score 215; DB 21; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROQGESNOERGAPRL 44
 |||||
 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROQGESNOERGAPRL 44

Db

RESULT 22
 AAB73433
 ID AAB73433 standard; peptide; 44 AA.

AC AAB73433;
 XX 25-JUN-2001 (first entry)
 XX Human growth hormone-releasing factor (hGRF).

DE Human growth hormone-releasing factor (hGRF).
 XX Human growth hormone-releasing factor; hGRF; hGRF(1-44)NH₂;
 KM galenical formulation; growth stimulation; growth hormone;
 KM GH deficiency-associated disorder; insulin-like growth factor-I; IGF-I;
 KM growth retardation; pituitary dwarfism; renal insufficiency;
 KM Turner's syndrome; protein anabolism; osteoporosis; vulnery;
 KM wound healing; bone healing; cancer; acquired immunodeficiency syndrome;
 KM AIDS; agriculture; milk production; meat production.

OS Homo sapiens.
 XX Homo sapiens.

PH Key Location/Qualifiers
 FT Modified-site 1 /note= "The N-terminus is optionally acylated with
 FT one of a number of stabilising chemical moieties,
 FT for which chemical structures are given in the
 FT specification"

FT Modified-site 44
 /note= "C-terminal amide"

FT US6194384-B1.
 XX US6194384-B1.
 PN 27-FEB-2001.
 XX 27-FEB-2001.
 PD 18-AUG-1998; 98US-0135738.
 XX 18-AUG-1998; 98US-0135738.
 PF 14-JUN-1996; 96US-0661329.
 XX 14-JUN-1996; 96US-0661329.
 PR (THER-) THERATECHNOLOGIES INC.
 XX (THER-) THERATECHNOLOGIES INC.
 PI Brazeau P, Gravel D;
 XX Brazeau P, Gravel D;
 DR WPI; 2001-289374/30.
 XX WPI; 2001-289374/30.

PT Long-acting galenical formulation of growth hormone-releasing factor
 PT peptides, comprises growth hormone-releasing factor compound pressed in
 PT a tablet which is slowly eroded and released by biological fluids
 XX Claim 1; Column 3-4; 12pp; English.

XX The present sequence represents full-length human growth hormone-
 CC releasing factor (hGRF), also referred to as hGRF(1-44)NH₂. The
 CC invention relates to long-acting galenical formulations of hGRF
 CC or the hGRF minimum active core sequence, hGRF(1-29)NH₂ (AAB73434)
 CC in which the hGRF peptide is pressed into a tablet for parenteral
 CC administration using a pressure in the range 1 to 100 kg/mm². The
 CC hGRF peptide is released as the tablet is eroded. The formulation
 CC provides long-lasting release and activity of GRF peptides which
 CC increases secretion of growth hormone (GH), thereby increasing
 CC insulin-like growth factor-I (IGF-I) levels in the blood. This in
 CC turn stimulates protein anabolism and the healing of tissues (including
 CC bone) and wounds. The GRF formulations can be used in place of GH in
 CC most instances. For example, they may be used to stimulate growth in
 CC children with pituitary dwarfism, renal insufficiencies, Turner's
 CC syndrome and short stature. In adults, particularly the elderly, the
 CC compositions can be used on a long-term basis to reverse age-related
 CC body composition changes, and to treat osteoporosis; or on a short-term
 CC basis to stimulate protein anabolism and tissue healing in cases of
 CC burns, AIDS (acquired immunodeficiency syndrome), cancer, and in wound
 CC and bone healing. The hGRF formulations may also be used in agriculture
 CC in certain jurisdictions to stimulate the deposition of lean muscle
 CC tissue in pigs and to increase milk production in cows. The formulation
 CC has long-lasting and prolonged activity without the addition of any
 CC carrier. The formulation therefore has an advantage over currently
 CC available GRF formulations which require daily or even more frequent
 CC infection owing to the short serum half-life of GRF.

SQ Sequence 44 AA;

Query Match 100.0%; Score 215; DB 22; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROQGESNOERGAPRL 44
 |||||
 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROQGESNOERGAPRL 44

Db

RESULT 23
 AAB90937
 ID AAB90937 standard; Peptide; 44 AA.

AC AAB90937;
 XX 22-JUN-2001 (first entry)
 XX Growth hormone releasing factor (GRF) related peptide SEQ ID NO:111.

DE Growth hormone releasing factor (GRF) related peptide SEQ ID NO:111.
 XX Growth hormone releasing factor (GRF) related peptide; conjugation;
 KM blood component; modification; succinimidyl; maleimido group; amino;
 KM hydroxyl; thiol; hormone; growth factor; neurotransmitter.

OS Homo sapiens.
 XX Homo sapiens.

OS Synthetic.
 XX Synthetic.

PN WO200069900-A2.
 XX WO200069900-A2.
 PD 23-NOV-2000.
 XX 23-NOV-2000.
 PF 17-MAY-2000; 2000WO-US13576.
 XX 17-MAY-2000; 2000WO-US13576.
 PR 17-MAY-1999; 99US-0134406.
 XX 17-MAY-1999; 99US-0134406.
 PR 10-SEP-1999; 99US-0153406.
 XX 10-SEP-1999; 99US-0153406.
 PR 15-OCT-1999; 99US-0159783.
 XX 15-OCT-1999; 99US-0159783.

PA (CONJ-) CONJUCHEM INC.
 XX (CONJ-) CONJUCHEM INC.

PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudau K;
 XX Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudau K;
 DR WPI; 2001-112059/12.
 XX WPI; 2001-112059/12.

PT Modifying and attaching therapeutic peptides to albumin prevents

PT peptide degradation, useful for increasing length of in vivo activity
PS Disclosure; Page 226; 733pp; English.
XX
XX
XX The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimide) and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxy/thiol groups on blood components to form a
CC peptide stabilized therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity
CC in vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention.
XX
XX Sequence 44 AA:
SQ
Query Match 100.0%; Score 215; DB 22; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQGESNORGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQGESNORGARL 44
RESULT 24
AAB07148
XX ABB07148 standard; peptide; 44 AA.
XX
XX ABB07148;
XX
XX 13-MAR-2002 (first entry)
XX
XX Growth-hormone releasing factor (GRF) fragment (residues 1-44).
XX
XX GLP-1; glucagon-like-peptide-1; growth-hormone releasing factor; GRF;
XX parathyroid hormone; PTH; antidiabetic; anorectic; cerebroprotective;
XX vasotrophic; anti-inflammatory; antiarteriosclerotic; hepatotropic;
XX tranquilizer; vulnerary; osteopathic; pharmaceutical.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Modified-site 44
XX /note= "C-terminal amide"
XX
XX WO200187322-A2.
XX
XX 22-NOV-2001.
XX
XX 17-MAY-2001; 2001WO-US15872.
XX
XX 17-MAY-2000; 2000US-205377P.
XX PR 19-MAY-2000; 2000US-205262P.
XX
XX (BION-) BIONEERASKA INC.
XX
XX Holmquist B, Dormady DC;
XX
XX WPI; 2002-082941/11.
XX
XX New peptide formulation for treating disease e.g. diabetes, obesity,
XX PT ischemia comprises peptides, an acid having a specified dissociation
XX constant and an excipient

XX
XX Claim 6; Page 13; 34pp; English.
PS
XX The invention provides a pharmaceutical composition that comprises a
CC molecule selected from a glucagon-like-peptide-1 (GLP-1) molecule, growth
CC -hormone releasing factor (GRF) molecule or a parathyroid hormone (PTH)
CC molecule. The composition further includes a weak acid such as acetic
CC acid. The pH of the composition is 3 - 5. The composition can be used for
CC the treatment of a disease or condition selected from diabetes, excess
CC appetite, obesity, stroke, ischemia, reperfusion injury, disturbed
CC glucose metabolism, surgery, coma, shock, gastrointestinal disease,
CC digestive hormone disease, atherosclerosis, vascular disease, gestational
CC diabetes, liver disease and cirrhosis, glucocorticoid excess, Cushing's
CC disease, the presence of activated counter regulatory hormones that occur
CC after trauma or a disease, hypertriglyceridemia, chronic pancreatitis,
CC the need for parental feeding, and a catabolic state following surgery
CC or injury. The present sequence represents a GRF peptide fragment that
CC can be included in the composition.
XX
XX Sequence 44 AA:
SQ
Query Match 100.0%; Score 215; DB 23; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQGESNORGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQGESNORGARL 44
RESULT 25
AAE35249
XX AAE35249 standard; Protein; 44 AA.
XX
XX AAE35249;
XX
XX 28-MAY-2003 (first entry)
XX
XX Human mature growth hormone releasing hormone (GHRH) #1.
XX
XX Growth hormone releasing hormone; GHRH; insulin-like froth factor-I;
XX IGF-I; osteopathic; acquired immune deficiency syndrome; AIDS; cancer;
XX post-surgery; growth hormone-related deficiency; transgene; bone loss;
XX burn; post-fracture; genetic disease; gene therapy; human.
XX
XX Homo sapiens.
XX
XX WO200297099-A1.
XX
XX 05-DEC-2002.
XX
XX 30-MAY-2001; 2001WO-US17573.
XX PF
XX 29-MAY-2001; 2001US-294316P.
XX PR
XX (VALE-) VALENTIS INC.
XX PA (BAYU) BAYLOR COLLEGE MEDICINE.
XX
XX Nordstrom JL, Draghia-Akli R;
XX
XX WPI; 2003-140478/13.
XX
XX Novel inducible growth hormone releasing hormone expression system in
XX PT which expression of gene encoding GHRH that induces production of
XX PT insulin-like froth factor-I in vivo, is not observed in absence of
XX PT ligand
XX
XX Disclosure; Fig 20; 45pp; English.
PS
XX The invention relates to an inducible growth hormone releasing hormone
XX (GHRH) expression system in which expression of gene encoding GHRH that
XX CC induces production of insulin-like froth factor-I (IGF-1) in vivo, is
XX not observed in absence of ligand. The invention is useful for preparing

CC a pharmaceutical composition for indications such as increasing weight,
 CC increasing lean body mass, decreasing fat mass, conversion to anabolism
 CC for a catabolic state associated with wasting, and increasing bone area,
 CC content and density. It is useful for regulated GHRII expression in vivo,
 CC for use in the indications, where the wasting is associated with cancer,
 CC acquired immune deficiency syndrome (AIDS), burns, or post-surgery. It
 CC is also useful for treating the growth hormone-related deficiencies
 CC associated with the growth hormone pathway, treating growth hormone-
 CC related deficiencies associated with genetic disease, and to prevent or
 CC treat bone loss, as in elderly, or post-fracture. It is also applied in
 CC vivo to effect expression of a transgene for gene therapy purposes. The
 CC present sequence is human mature GHRII protein used in the invention.

SO Sequence 44 AA;

Query Match 100.0%; Score 215; DB 24; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.9e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNOERGARL 44
 DB 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNOERGARL 44

RESULT 26
 AAP40121

ID AAP40121 standard; Protein; 45 AA.

AC AAP40121;

DT 01-FEB-1992 (first entry)

DE Sequence encoded by growth hormone releasing factor GRF-OH (44)
 DE gene in transformed E.coli strain KRI (pRK248c1ts, pRC23/GRF-1).

KW Growth hormone; pituitary dwarfism therapy; diabetes therapy;

KW wound healing; burn therapy; milk yield; lactation.

OS Homo sapiens.

PN EPI08387-A.

PD 16-MAY-1984.

PF 02-NOV-1983; 83BP-0110923.

PR 10-JAN-1983; 83US-0456660.

PR 04-NOV-1982; 82US-0439168.

PR 24-SEP-1985; 85US-0778779.

PR 04-NOV-1983; 83US-0439168.

PA (HOFF) HOFFMANN-LA ROCHE AG.

PI Bhact RS, Collier KJ, Crowl RM, Poonian MS;

DR WPI: 1984-128795/21.

DR N-PSDB; AAN40103.

PT Prodn. of growth hormone releasing factor - by growth of

PT microorganism transformed with DNA expression vehicle

PS Example; Fig 2; 50pp; English.

CC The inventors claim a method for the prepn. of a structural gene

CC coding for GRF, and for the prodn. of a recombinant GRF, including

CC recombinant GRF-OH (44).

XX Sequence 45 AA;

Query Match 100.0%; Score 215; DB 5; Length 45;

Best Local Similarity 100.0%; Pred. No. 1.9e-19;

Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNOERGARL 44
 DB 2 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNOERGARL 45

RESULT 27
 AAP50183

ID AAP50183 standard; Protein; 45 AA.

AC AAP50183;

DT 25-MAR-2003 (updated)

DT 07-JAN-1992 (first entry)

DE Growth hormone release factor (somatoliberin).

KW Somatoliberin; GRF-44.

OS Synthetic.

PN EPI29073-A.

PD 27-DEC-1984.

PF 18-MAY-1984; 84EP-0105666.

PR 25-MAY-1983; 83US-0497776.

PA (CHIR) CHIRON CORP.

PI Barr PJ, Brake AJ, Mullenbach GT;

DR WPI: 1985-001342/01.

DR N-PSDB; AAN50232.

PT Prodn. of peptide with growth hormone releasing factor activity -

PT by cultivation of yeast transformed with DNA construct.

PS Claim 4; Page 19; 23pp; English.

CC The sequence encodes GRF-44, which can be produced efficiently

CC and secreted by S. cerevisiae.

CC (Updated on 25-MAR-2003 to correct PA field.)

SO Sequence 45 AA;

Query Match 100.0%; Score 215; DB 6; Length 45;
 Best Local Similarity 100.0%; Pred. No. 1.9e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 28
 AAP60716

ID AAP60716 standard; Protein; 45 AA.

AC AAP60716;

DT 25-MAR-2003 (updated)

DT 23-JUL-1991 (first entry)

DE Sequence encoded by synthetic human growth hormone releasing

DE factor (hGRF).

KW Vector; Gram positive bacteria.

OS Homo sapiens.

PN W08605812-A.

```

PD 09-OCT-1986.
XX
XX 28-MAR-1986; 86WO-US00636.
XX
XX 28-MAR-1986; 86US-0845864.
XX 29-MAR-1985; 85US-0717321.
XX
XX (BIOY ) BIOTECHNICA INT INC.
XX
XX Stephens MA, Rudolph CF, Hammett NM, Staasi DL, Pero JG;
XX
XX WPI; 1986-278825/42.
XX
XX N-PSDB; AAN60675.
XX
XX Vectors useful for transforming Gram positive bacteria - contg.
XX secretory signal encoding sequence of Bacillus licheniformis
XX alpha-amylase gene
XX
XX Example; Fig 31(b); 60pp; English.
XX
XX The vectors of the invention may be used to transform Gram positive
XX bacteria for prodn. of polypeptides e.g. growth hormone. Using the
XX vectors contg. a gene for alkaline phosphatase fused to a gene
XX encoding growth hormone, expression can be monitored by observing
XX enzymatic activity.
XX (Updated on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 45 AA;
SQ
Query Match 100.0%; Score 215; DB 7; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLDIMSROOGESNOERGARL 44
Db 2 YADAIFTNSYRKVLGQLSARKLLDIMSROOGESNOERGARL 45

RESULT 29
AAP60091
ID AAP60091 standard; Protein; 45 AA.
XX
XX AAP60091;
XX
XX 30-OCT-1991 (first entry)
XX
XX Trp-hGRF(1-43)-Leu.
XX
XX growth hormone releasing factor; analogue; pUC9.
XX
XX Synthetic.
XX
XX OS
XX
XX Key Location/Qualifiers
XX Peptide 2..44
XX /label= hGRF(1-43)
XX
XX EP206863-A.
XX
XX 30-DEC-1986.
XX
XX 27-MAY-1986; 86EP-0401110.
XX
XX 28-MAY-1985; 85FR-0007977.
XX
XX (SNFI ) SANOFI SA.
XX
XX Roskam W, Ferrara P;
XX
XX WPI; 1986-341147/52.
XX
XX N-PSDB; AAN60105.
XX
XX New somatocristin analogues - produced by recombinant DNA
XX technique
PT

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XX
XX Claim 9; Fig 1 and Fig 2; 15pp; French.
XX
XX This polypeptide is one example of a somatocristin analogue of the
XX invention, i.e. it comprises residues 1-43 of hGRF followed by a Leu
XX residue. The C-terminal residue of the analogue can also be Ala, Val
XX or Gly. The analogues are not amidated. The analogue is preferably
XX expressed as a fusion protein with beta-galactosidase. The
XX analogues are useful as intermediates in the prodn. of GRF.
XX
XX Sequence 45 AA;
SQ
Query Match 100.0%; Score 215; DB 7; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLDIMSROOGESNOERGARL 44
Db 2 YADAIFTNSYRKVLGQLSARKLLDIMSROOGESNOERGARL 45

RESULT 30
AAP60081
ID AAP60081 standard; Protein; 45 AA.
XX
XX AAP60081;
XX
XX 25-MAR-2003 (updated)
XX 28-JUN-1991 (first entry)
XX
XX Sequence encoded by synthetic human pancreatic growth hormone
XX releasing factor (GRF) gene.
XX
XX Saccharomyces cerevisiae; expression vector;
XX heterologous polypeptide.
XX
XX Homo sapiens.
XX
XX EP206783-A.
XX
XX 30-DEC-1986.
XX
XX 20-JUN-1986; 86EP-0304764.
XX
XX 20-JUN-1985; 85US-0747152.
XX
XX (SALK ) SALK INST BIOLOGICAL STUDIES.
XX
XX Thill GP, Harpold MM, Tschopp JF;
XX
XX WPI; 1986-341080/52.
XX
XX N-PSDB; AAN60095.
XX
XX Expression vectors for Saccharomyces cerevisiae - useful for
XX improving efficiency of heterologous polypeptide secretion
XX
XX Example; Pages 32-33; 73pp; English.
XX
XX Using the expression vectors of the invention, improved efficiency
XX in the secretion of heterologous polypeptides from transformed S.
XX cerevisiae is possible. The polypeptides include over 200 AA
XX residues. Specific polypeptides include GRF analogues, urokinase,
XX growth hormone, etc.
XX
XX (Updated on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 45 AA;
SQ
Query Match 100.0%; Score 215; DB 7; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIFTNSYRKVLGQLSARKLLDIMSROOGESNOERGARL 44

```

Db 2 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSESNQERGARRL 45

RESULT 31

ID AAR06152 standard; protein; 45 AA.

XX AAR06152;

XX 25-MAR-2003 (updated)

DT 02-FEB-1991 (first entry)

XX Sequence of human pancreatic growth hormone releasing factor (hGRF).

DE encoded by synthetic gene.

XX Somatoliberin.

OS Homo sapiens.

XX US488286-A.

XX 19-DEC-1989.

XX 24-MAR-1987; 87US-0030244.

XX 24-MAR-1987; 87US-0030244.

XX (CREA-) CREATIVE BIOMOLECULES INC.

XX Crea R;

XX WPI: 1990-058374/08.

XX N-PSDB; AAQ03402.

XX Altering sequence of native double stranded DNA of structural genes -

PT to produce hybrid gene, including synthetic oligo nucleotide

PT cassette, e.g. encoding human pancreatic growth hormone-releasing

PT factor

XX Disclosure; Fig 1, 10pp; English.

XX Polypeptides the size of hGRF have been expressed by fusing the

CC structural gene to a portion of the beta-galactosidase structural gene.

CC hGRF containing a Met at position 27, so preventing cleavage by CNBR of

CC the fusion prod. A synthetic oligonucleotide cassette was constructed.

CC The analogue had Met replaced by Leu.

CC (Updated on 25-MAR-2003 to correct PF field.)

CC (Updated on 25-MAR-2003 to correct PR field.)

CC (Updated on 25-MAR-2003 to correct PA field.)

XX Sequence 45 AA;

XX Query Match 100.0%; Score 215; DB 11; Length 45;

XX Best Local Similarity 100.0%; Pred. No. 1.9e-19;

XX Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSESNQERGARRL 44

Db 2 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSESNQERGARRL 45

RESULT 32

ID AAR11870 standard; Protein; 45 AA.

XX AAR11870;

XX 25-MAR-2003 (updated)

DT 16-JUL-1991 (first entry)

XX Human growth hormone releasing factor analogue.

XX GRF; dwarfism; wound healing; osteoporosis.

XX synthetic.

XX AU9062541-A.

XX 21-MAR-1991.

XX 18-SEP-1989; 89AU-0408728.

XX 18-SEP-1989; 89US-0408728.

XX (PITM) PITMAN MOORE INC.

XX Seely JE, Meng H;

XX WPI: 1991-133281/19.

XX Novel human growth hormone-releasing factor analogues - used eg

PT for treating prim. dwarfism, short stature, osteoporosis and for

PT healing wound

XX Claim 1; page 26; 34pp; English.

XX This is the most preferred example of a human growth hormone

CC releasing factor (hGRF) analogue. It comprises the 44 residue

CC natural hGRF sequence with an additional N-terminal proline.

CC This analogue is useful for treating eg primary dwarfism and

CC short stature, for wound and fracture healing and for treating

CC osteoporosis. Dosage is 0.05-200 (pref. 0.5-100) microg/kg/day,

CC by parenteral admin.

CC See also R1179.

CC (Updated on 25-MAR-2003 to correct PF field.)

CC (Updated on 25-MAR-2003 to correct PA field.)

XX Sequence 45 AA;

XX Query Match 100.0%; Score 215; DB 12; Length 45;

XX Best Local Similarity 100.0%; Pred. No. 1.9e-19;

XX Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSESNQERGARRL 44

Db 2 YADAIFTNSYRKVLGQLSARKLLQDIMSROGSESNQERGARRL 45

RESULT 33

ID AAR69078 standard; peptide; 45 AA.

XX AAR69078;

XX 25-MAR-2003 (updated)

DT 23-AUG-1995 (first entry)

XX Growth Hormone Releasing Factor (GRF) (1-44)-Gly.

XX Growth Hormone Releasing Factor 1; GRF 1; endopeptidase;

XX thrombin; cleavage.

XX Synthetic.

XX WO9503405-A2.

XX 02-FEB-1995.

XX 19-JUL-1994; 94WO-US08125.

XX 20-JUL-1993; 93US-0095162.

XX (BION-) BIONEERASKA INC.

XX Henrikken D, Manning S, Partridge B, Stout J, Wagner FW;

DR WPI, 1995-075233/10.
XX Transpeptidation of recombinant polypeptides - using
PT endopeptidase such as trypsin or thrombin to modify C-terminal
PT residue.
PS Disclosure, Page 60; 69pp; English.
XX
CC The transpeptidation process of the invention using the
CC endopeptidase enzyme thrombin is a one-step reaction. Thrombin
CC is both the cleavage enzyme and the enzyme for transpeptidation.
CC The recombinant polypeptide includes a GRF (1-41) core (AAR69069)
CC core linked to the leaving unit (AAR69077). A suitable addition unit
CC for the synthesis of GRF (1-44)-NH₂ is Ala-Arg-Leu-NH₂, and for the
CC synthesis of GRF(1-44)-Gly (AAR69078) is Ala-Arg-Leu-Gly (AAR69070).
CC (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 45 AA;
Query Match 100.0%; Score 215; DB 16; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARL 44
RESULT 34
AAR69074
ID AAR69074 standard; peptide; 45 AA.
XX
AC AAR69074;
XX
DT 25-MAR-2003 (updated)
DT 23-AUG-1995 (first entry)
XX
DE Growth hormone releasing factor GRF (1-41) Ala-Arg-Leu-Ala.
XX
KM Growth Hormone Releasing Factor 1; GRF 1; endopeptidase;
KM thrombin; cleavage.
XX
OS Synthetic.
XX
PN WO9503405-A2.
XX
PD 02-FEB-1995.
XX
PF 19-JUL-1994; 94WO-US08125.
XX
PR 20-JUL-1993; 93US-0095162.
XX
PA (BION-) BIONEERASKA INC.
XX
PI Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
PI WPI, 1995-075233/10.
DR
XX Transpeptidation of recombinant polypeptides - using
PT endopeptidase such as trypsin or thrombin to modify C-terminal
PT residue.
PS Example; Page 45; 69pp; English.
XX
CC The native or naturally occurring sequence of growth hormone
CC releasing factor is AAR69073. A pharmaceutical compsn. of
CC GRF(1-44)-NH₂ produced by the method of the invention is claimed.
CC A DNA sequence encoding a truncated core GRF polypeptide and the
CC leaving unit -Ala-, for example GRF (1-41)-Ala-Arg-Leu-Ala, having
CC the sequence in AAR69074, is synthesised by automated DNA methods,
CC inserted in an expression vector and used to transform E.coli.
CC The recombinant protein is separated and freeze dried. For
CC purification and transpeptidation, purified 1-41-Ala peptide is

CC (AAR69081) cleaved with thrombin in the presence of either
CC Ala-Arg-Leu-NH₂ or Ala-Arg-Leu-Gly. The GAR sequence at residues
CC 39-41 in GRF 1-41 (AAR69069) is a site recognised and cleaved by
CC thrombin. The thrombin cleaves the Ala from the carboxyl terminus
CC and forms an acyl-enzyme intermediate. Ala-Arg-Leu-NH₂ or
CC Ala-Arg-Leu-Gly act as a nucleophile transpeptidation occurs.
CC In reaction 1, GRF (1-41)-Ala-Arg-Leu-Ala + Ala-Arg-Leu-NH₂
CC produces GRF (1-41) Ala-Arg-Leu-NH₂ (AAR69082) + Ala-Arg-Leu-Ala,
CC and in reaction 2, GRF (1-41)-Ala-Arg-Leu-Ala + Ala-Arg-Leu-Gly
CC produces GRF (1-41) Ala-Arg-Leu-Gly (AAR69083) + Ala-Arg-Leu-Ala.
CC (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 45 AA;
Query Match 100.0%; Score 215; DB 16; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARL 44
RESULT 35
AAR69083
ID AAR69083 standard; peptide; 45 AA.
XX
AC AAR69083;
XX
DT 25-MAR-2003 (updated)
DT 23-AUG-1995 (first entry)
XX
DE Growth hormone releasing factor GRF 1-41-Ala-Arg-Leu-Gly.
XX
KM Growth Hormone Releasing Factor 1; GRF 1; endopeptidase;
KM thrombin; cleavage.
XX
OS Synthetic.
XX
PN WO9503405-A2.
XX
PD 02-FEB-1995.
XX
PF 19-JUL-1994; 94WO-US08125.
XX
PR 20-JUL-1993; 93US-0095162.
XX
PA (BION-) BIONEERASKA INC.
XX
PI Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
PI WPI, 1995-075233/10.
DR
XX Transpeptidation of recombinant polypeptides - using
PT endopeptidase such as trypsin or thrombin to modify C-terminal
PT residue.
PS Example; Page 47; 69pp; English.
XX
CC The native or naturally occurring sequence of growth hormone
CC releasing factor is AAR69073. A pharmaceutical compsn. of
CC GRF(1-44)-NH₂ produced by the method of the invention is claimed.
CC A DNA sequence encoding a truncated core GRF polypeptide and the
CC leaving unit -Ala-, for example GRF (1-41)-Ala-Arg-Leu-Ala, having
CC the sequence in AAR69074, is synthesised by automated DNA methods,
CC inserted in an expression vector and used to transform E.coli.
CC The recombinant protein is separated and freeze dried. For
CC purification and transpeptidation, purified 1-41-Ala peptide is
CC Ala-Arg-Leu-NH₂ or Ala-Arg-Leu-Gly. The GAR sequence at residues
CC 39-41 in GRF 1-41 (AAR69069) is a site recognised and cleaved by
CC thrombin. The thrombin cleaves the Ala from the carboxyl terminus
CC and forms an acyl-enzyme intermediate. Ala-Arg-Leu-NH₂ or

CC Ala-Arg-Leu-Gly act as a nucleophile transpeptidation occurs.
 CC in reaction 1, GRF (1-41)-Ala-Arg-Leu-Ala + Ala-Arg-Leu-NH2
 CC produces GRF (1-41) Ala-Arg-Leu-NH2 (AAR69082) + Ala-Arg-Leu-Ala,
 CC and in reaction 2, GRF (1-41)-Ala-Arg-Leu-Ala + Ala-Arg-Leu-Gly
 CC produces GRF (1-41) Ala-Arg-Leu-Gly (AAR69083) + Ala-Arg-Leu-Ala.
 CC (Updated on 25-MAR-2003 to correct PN field.)

XX Sequence 45 AA;

Query Match 100.0%; Score 215; DB 16; Length 45;
 Best Local Similarity 100.0%; Pred. No. 1.9e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNÖRGARARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNÖRGARARL 44

RESULT 36
 AAR98961

ID AAR98961 standard; peptide; 45 AA.

XX AAR98961;

DT 15-JAN-1997 (first entry)

XX Target peptide N-terminus used in fusion protein construct.

XX Fusion protein construct; isolation; purification;
 KM growth hormone releasing factor; glucagon-like peptide 1;
 KW parathyroid hormone; inclusion body; carbonic anhydrase.

XX Synthetic.

XX WO9617942-A1.

XX 13-JUN-1996.

XX 07-DEC-1995; 95WO-US15800.

XX 07-DEC-1994; 94US-0350530.

XX (BION-) BIONEERASKA INC.

PI De LA MOTTE RS, Henriksen DB, Holmquist B, Manning SD;
 PI Partridge BE, Stout JS, Wagner FW;

DR WPI; 1996-287186/29.

PT Isolation and purification of peptide(s) from fusion protein constructs.

PT - which include a carbonic anhydrase and a variable fused

PS polypeptide

XX Example 9; Page 51; 67pp; English.

XX A new method for the isolation and/or purification of a recombinant
 CC peptide employs a fusion protein construct (FPC) comprising a
 CC carbonic anhydrase and a variable fused polypeptide containing a
 CC target peptide. The method comprises precipitating either the FPC or
 CC a fragment of the FPC including the carbonic anhydrase. An
 CC alternative method of producing the peptide comprises expressing the
 CC FPC as part of an inclusion body. The target peptides of the FPC are
 CC derived from growth hormone releasing factor (GRF), glucagon-like
 CC peptide 1 (GLP) or parathyroid hormone (PTH). This sequence
 CC is the N-terminus of the peptide corresponding to amino acids 1-44
 CC of GRF.

XX Sequence 45 AA;

Query Match 100.0%; Score 215; DB 17; Length 45;
 Best Local Similarity 100.0%; Pred. No. 1.9e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNÖRGARARL 44
 DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNÖRGARARL 44

RESULT 37
 AAP50371
 ID AAP50371 standard; Protein; 46 AA.

XX AAP50371;

DT 28-NOV-1991 (first entry)

XX Sequence of growth hormone releasing factor (GRF) with

DE C-terminal Gly.

XX Fusion protein; hormone; bacterial expression; polypeptide.

XX Homo sapiens.

XX DE3327007-A.

XX 07-FEB-1985.

XX 27-JUL-1983; 83DE-3327007.

XX 27-JUL-1983; 83DE-3327007.

XX 10-AUG-1983; 83DE-3328793.

XX (FARH) HOECHST AG.

PI Engels J, König W, Mullner H, Uhlmann E, Wetekam W;

DR WPI; 1985-038853/07.

DR N-PSDB; AAN50429.

PT Polypeptide amide(s) pref. growth hormone releasing factor prodn.

PT - by producing new glycine peptide by genetic technology and

PT enzymatically removing the C-terminal glycine

XX Disclosure; Page 19; 23pp; German.

XX The inventors claim a method for the prodn. of polypeptides with an

CC N-terminal Met, or fusion proteins of GRF linked to a bacterial

CC protein through a Met residue. The polypeptides/proteins are first

CC produced with a C-terminal Gly. The polypeptide is esp. GRF or GRF

CC deriv.

XX Sequence 46 AA;

Query Match 100.0%; Score 215; DB 6; Length 46;
 Best Local Similarity 100.0%; Pred. No. 1.9e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNÖRGARARL 44
 DB 2 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNÖRGARARL 45

RESULT 38
 AAR98973
 ID AAR98973 standard; Peptide; 49 AA.

XX AAR98973;

DT 03-DEC-1996 (first entry)

XX DDDDK-GRF(1-44).

XX GRF; C-amide; C-amidated peptide; alpha-carboxamide;
 KM recombinant protein; fusion protein; transpeptidation.
 XX Synthetic.

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XX Key Location/Qualifiers
FH Protein 6..49
FT /label= GRF(1-44)
PN MO9617941-A2.
PD 13-JUN-1996.
PF 07-DEC-1995; 95WO-US15799.
PR 07-DEC-1994; 94US-0350528.
PA (BION-) BIONEERASKA INC.
PI Heriksen DB, Holmquist B, Patridge BE, Stout JS;
PI Wagner FW;
XX WPI; 1996-287185/29.
XX
XX Production of C-terminal alpha-carboxamidated peptide(s) - by
PT cleavage and transpeptidation of recombinant multicopy peptide(s) or
PT fusion constructs
XX
XX Example 14; Page 71; 93pp; English.
XX
XX A pre-GRF fragment (AAR98973) is produced following expression
CC of a multicopy GRF expression plasmid (see also AAT34868) in
CC Escherichia coli host cells. It can be cleaved with enterokinase
CC to yield GRF(1-44)-NH2.
XX
SQ Sequence 49 AA;

Query Match 100.0%; Score 215; DB 17; Length 49;
Best Local Similarity 100.0%; Pred. No. 2e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIPTNSYRKVLGQLSARLKLQDIMSRQGESNQGARGARL 44
DB 6 YADAIPTNSYRKVLGQLSARLKLQDIMSRQGESNQGARGARL 49

RESULT 39
AAR98969
ID AAR98969 standard; Protein; 69 AA.
XX
AC AAR98969;
XX
DT 02-DEC-1996 (first entry)
XX
DE GRF(1-44) Cys fusion protein.
XX
DE GRF; C-amide; C-amidated peptide; alpha-carboxamide;
KW recombinant protein; fusion protein; transpeptidation; vector;
KW plasmid pBN2; carbonic anhydrase II.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FH Region 1
FT /label= hCA
FT /note= "C-terminal residue of human carbonic
FT anhydrase"
FT
FT Region 2..20
FT /label= Linker
FT /note= "intracnecting peptide"
FT
FT Cleavage-site 9..10
FT /label= Thrombin
FT /note= "thrombin cleavage site"
FT
FT Cleavage-site 12
FT /label= Cys
FT /note= "cysteine cleavage site"
FT
FT Cleavage-site 17..20

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FT /label= Enterokinase
FT /note= "enterokinase cleavage site"
FT Protein 21..64
FT /label= GRF(1-44)
FT
FT Region 65..69
FT /label= C-terminal peptide
FT /note= "contains Cys residue adjacent to
FT GRF(1-44) C-terminus, allowing
FT aminolysis and formation of C-terminal
FT alpha-carboxamide"
PN MO9617941-A2.
PD 13-JUN-1996.
PF 07-DEC-1995; 95WO-US15799.
PR 07-DEC-1994; 94US-0350528.
PA (BION-) BIONEERASKA INC.
PI Heriksen DB, Holmquist B, Patridge BE, Stout JS;
PI Wagner FW;
XX WPI; 1996-287185/29.
XX
XX N-PSDB; AAT34867.
XX
XX Production of C-terminal alpha-carboxamidated peptide(s) - by
PT cleavage and transpeptidation of recombinant multicopy peptide(s) or
PT fusion constructs
XX
XX Example 12; Fig 3; 93pp; English.
XX
XX A portion (AAR98969) of a fusion protein construct contg. a single
CC copy of GRF(1-44) (AAR98965) is encoded by plasmid pBN2:GRF(1-44)-C-1c
CC (see also AAT34867). The fusion protein can be expressed in
CC an intracnecting peptide including thrombin, cysteine and
CC enterokinase cleavage sites, and of a Cys residue immediately
CC C-terminal to the GRF(1-44) moiety permits the construct to be
CC selectively reacted to produce GRF peptide having a C-terminal
CC alpha-carboxamide.
XX
SQ Sequence 69 AA;

Query Match 100.0%; Score 215; DB 17; Length 69;
Best Local Similarity 100.0%; Pred. No. 2.9e-19;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIPTNSYRKVLGQLSARLKLQDIMSRQGESNQGARGARL 44
DB 21 YADAIPTNSYRKVLGQLSARLKLQDIMSRQGESNQGARGARL 64

RESULT 40
AAP51097
ID AAP51097 standard; Protein; 107 AA.
XX
AC AAP51097;
XX
DT 25-MAR-2003 (updated)
DT 20-NOV-1991 (first entry)
XX
DE Sequence of prepro-human pancreatic growth hormone releasing
DE factor (hpgRF) 107 encoded by clone 21.
XX
DE Growth regulator; growth hormone.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FH Peptide 1..20
FT /label= signal

```


FT Region 21..29
 FT /label= pre-sequence
 FT Protein 30..107
 XX AUA8429733-A.
 XX PD 10-JAN-1985.
 XX PE 21-JUN-1984; 84AU-0029733.
 XX PR 05-JUL-1983; 83US-0510935.
 XX PA (SALK) SALK INST BIOLOGICAL STUDIES.
 XX PI Gubler UA, Ling NCK;
 XX DR WPI; 1985-050321/09.
 XX DR N-PSDB; AAN50471.
 XX PT Pre-pro-human pancreatic growth hormone releasing factor - 1s
 XX PT produced by recombinant DNA procedures
 XX PS Disclosure; Table, Page 6a; 24pp; English.
 XX CC Probes A and B (AAN50468, AAN50469) were used to screen a cDNA library.
 XX CC prep'd. from mRNA isolated from a human pancreatic tumour. Clones 8
 XX CC (preproGRF-108) and 21 (preproGRF-107) were isolated. The entire
 XX CC coding region of each of these S08 is claimed (see AAN50470, AAN50471).
 XX CC (Updated on 25-MAR-2003 to correct PA field.)
 XX SQ Sequence 107 AA;

Query Match 100.0%; Score 215; DB 6; Length 107;
 Best Local Similarity 100.0%; Pred. No. 4,4e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSROGESNQRGARARL 44
 |||||
 Db 32 YADAIPTNSYRKVLGQLSARKLLQDIMSROGESNQRGARARL 75

RESULT 41
 AAP51098
 ID AAP51098 standard; Protein; 108 AA.
 XX AC AAP51098;
 XX DT 25-MAR-2003 (updated)
 XX DT 20-NOV-1991 (first entry)
 XX DE Sequence of prepro-human pancreatic growth hormone releasing
 DE factor (hprgf) 108 encoded by clone 8.
 XX KW Growth regulator; growth hormone.
 XX OS Homo sapiens.
 XX FH Key
 FH Peptide 1..20
 FT /label= signal
 FT Region 21..29
 FT /label= pre-sequence
 FT Protein 30..108
 XX AUA8429733-A.
 XX PN 10-JAN-1985.
 XX PD 21-JUN-1984; 84AU-0029733.
 XX PR 05-JUL-1983; 83US-0510935.
 XX PA (SALK) SALK INST BIOLOGICAL STUDIES.

XX Gubler UA, Ling NCK;
 PI WPI; 1985-050321/09.
 DR N-PSDB; AAN50470.
 XX PT Pre-pro-human pancreatic growth hormone releasing factor - 1s
 XX PT produced by recombinant DNA procedures
 XX PS Disclosure; Table, Page 6a; 24pp; English.
 XX CC Probes A and B (AAN50468, AAN50469) were used to screen a cDNA library
 XX CC prep'd. from mRNA isolated from a human pancreatic tumour. Clones 8
 XX CC (preproGRF-108) and 21 (preproGRF-107) were isolated. The entire
 XX CC coding region of each of these S08 is claimed (see AAN50470, AAN50471).
 XX CC (Updated on 25-MAR-2003 to correct PA field.)
 XX SQ Sequence 108 AA;

Query Match 100.0%; Score 215; DB 6; Length 108;
 Best Local Similarity 100.0%; Pred. No. 4,5e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSROGESNQRGARARL 44
 |||||
 Db 32 YADAIPTNSYRKVLGQLSARKLLQDIMSROGESNQRGARARL 75

RESULT 42
 ABP58377
 ID ABP58377 standard; Protein; 108 AA.
 XX AC ABP58377;
 XX DT 07-APR-2003 (first entry)
 XX DE Human growth hormone-releasing factor.

Human growth hormone-releasing factor.

XX Human; growth hormone-releasing factor; GRF; autoimmune disease;
 KW multiple sclerosis; rheumatoid arthritis; antirheumatic;
 KW antiarthritic; neuroprotective; immunosuppressive; thyromimetic;
 KW antinflammatory; nephrotropic; antianaemic; dermatological.

XX Homo sapiens.

XX EPI260229-A2.

XX 27-NOV-2002.

XX 17-MAY-2002; 2002EP-0011048.

XX 18-MAY-2001; 2001JP-0148607.

XX (SUMU) SUMITOMO PHARM CO LTD.

XX (SUMO) SUMITOMO CHEM CO LTD.

XX Ikushima H;

XX WPI; 2003-169153/17.

XX N-PSDB; ABZ24802.

XX Anti-autoimmune composition useful as prophylactic or therapeutic drug
 PT for multiple sclerosis or rheumatoid arthritis, comprises a substance
 PT having growth hormone-releasing factor inhibitory activity -

XX Disclosure; Page 22-23; 31pp; English.

XX The present sequence is the protein sequence of the human growth
 CC hormone-releasing factor (GRF). Experiments on the onset of
 CC experimental autoimmune encephalomyelitis, an animal model of
 CC multiple sclerosis, indicated that GRF is associated with the onset
 CC of autoimmune diseases and that onset could be suppressed by
 CC inhibiting GRF activity. The invention provides an anti-autoimmune

composition comprising a substance having GRF inhibitory activity.
 CC inhibitory activity includes inhibition of the expression or
 CC secretion of GRF, inhibition of the secretion of GRF receptor
 CC (GRRR), inhibition of the GRRR mediated action of GRF, or inhibition
 CC of the binding of GRF to GRRR. The inhibitor is e.g. a peptide
 CC analogue of GRF. The composition is used to treat an autoimmune
 CC disease, especially multiple sclerosis or rheumatoid arthritis
 CC (claimed). Methods of screening methods for GRF inhibitors are
 CC also claimed. The inhibitors are also useful as a drug for
 CC relieving the symptoms, or achieving a remission, of other
 CC autoimmune diseases, such as Hashimoto's thyroiditis,
 CC thyrotoxicosis, Good-pasture's syndrome, myasthenia gravis,
 CC Addison's disease, autoimmune haemolytic anaemia, Sjogren's
 CC syndrome and systemic lupus erythematosus.

CC Sequence 108 AA;

Query Match 100.0%; Score 215; DB 24; Length 108;
 Best Local Similarity 100.0%; Pred. No. 4.5e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
 Db 32 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 75

RESULT 43

AA98970 ID AA98970 standard; Protein; 122 AA.

XX AC AA98970;

DT 02-DEC-1996 (first entry)

XX GRF(1-44) Cys (2-copy) fusion protein.

XX GRF; C-amidated peptide; alpha-carboxamide;

KW recombinant protein; fusion protein; transpeptidation; vector;

KW plasmid pBN2; carbonic anhydrase II.

XX Synthetic.

XX Key Location/Qualifiers

FT 1 /label= hCA
 FT /note= "C-terminal residue of human carbonic
 FT anhydrase"

FT 2..20 /label= Linker
 FT /note= "intrconnecting peptide"

FT 9..10 /label= "thrombin
 FT /note= "thrombin cleavage site"

FT 12 /label= Cys
 FT /note= "thrombin cleavage site"

FT 17..18 /label= Enterokinase
 FT /note= "enterokinase cleavage site"

FT 21..64 /label= GRF(1-44)
 FT /note= "enterokinase cleavage site"

FT 65..73 /label= Linker
 FT /note= "intrconnecting peptide includes Cys residue
 FT adjacent to GRF(1-44) C-terminus, allowing
 FT aminolysis and formation of C-terminal
 FT alpha-carboxamide"

FT 70..71 /label= Enterokinase
 FT /note= "enterokinase cleavage site"

FT 74..117 /label= GRF(1-44)

FT 116..122

FT Cleavage-site

FT Protein

FT Region

FT Region

FT /label= C-terminal peptide
 FT /note= "includes Cys residue adjacent to GRF(1-44)
 FT C-terminus, allowing aminolysis and
 FT formation of alpha-carboxamide"

XX W09617941-A2.

XX 13-JUN-1996.

XX 07-DEC-1995; 95WO-US15799.

XX 07-DEC-1994; 94US-0350528.

XX (BION-) BIONEERASKA INC.

XX Heriksen DB, Holmquist B, Patridge BE, Stout JS;

XX WPI; 1996-287185/29.

XX N-PSDB; AAT34868.

XX Production of C-terminal alpha-carboxamidated peptide(s) - by
 PT cleavage and transpeptidation of recombinant multicopy peptide(s) or
 PT fusion constructs

XX Example 12; Fig 4A-B; 93pp; English.

XX A portion (AA98970) of a fusion protein construct contg. 2 copies
 CC of GRF(1-44) (AA98965) is encoded by plasmid pBN2:GRF(1-44)C-2c
 CC (see also AAT34868). The fusion protein can be expressed in
 CC Escherichia coli transformants. The presence in the construct of
 CC intrconnecting peptides including enterokinase, cysteine and
 CC thrombin cleavage sites, and of Cys residues immediately C-terminal
 CC to the GRF(1-44) moieties, permits the construct to be selectively
 CC reacted to produce C-terminal alpha-carboxamidated GRF(1-44)
 CC peptides.

XX Sequence 122 AA;

Query Match 100.0%; Score 215; DB 17; Length 122;
 Best Local Similarity 100.0%; Pred. No. 5e-19;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
 Db 21 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 64

Search completed: February 11, 2004, 11:51:34
 Job time : 42 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: February 11, 2004, 11:45:12 ; Search time 34 Seconds
(without alignments)
270.965 Million cell updates/sec

Title: 09-786639

Perfect score: 215

Sequence: 1 yadafitnsyrkvlgqlsarl.....dimxrggsenrgararl 44

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 801455 seqs, 209382283 residues

Total number of hits satisfying chosen parameters: 801455

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications_AA:*

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19: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	215	100.0	44	US-09-316-505-1	Sequence 1, Appl1
2	215	100.0	44	US-10-224-640-1	Sequence 1, Appl1
3	215	100.0	44	US-10-360-101-262	Sequence 262, App
4	215	100.0	44	US-10-016-403-8	Sequence 8, Appl1
5	215	100.0	44	US-10-197-954-77	Sequence 77, Appl1
6	215	100.0	44	US-10-147-087-2	Sequence 2, Appl1
7	211	99.1	44	US-10-004-530A-20	Sequence 20, Appl1
8	210	97.7	44	US-10-360-101-175	Sequence 175, App
9	205	95.3	44	US-10-016-403-9	Sequence 9, Appl1
10	203	94.4	44	US-09-420-785A-1	Sequence 1, Appl1
11	202	94.0	44	US-10-124-759-6	Sequence 6, Appl1
12	197	91.6	44	US-10-124-759-10	Sequence 10, Appl1
13	196	91.2	44	US-10-124-759-5	Sequence 5, Appl1
14	196	91.2	44	US-10-124-759-9	Sequence 9, Appl1
15	195	90.7	44	US-10-016-403-10	Sequence 10, Appl1

16	195	90.7	44	US-10-124-759-7	Sequence 7, Appl1
17	188	87.4	40	US-10-262-377-14	Sequence 14, Appl1
18	188	87.4	40	US-10-395-709-5	Sequence 5, Appl1
19	188	87.4	40	US-10-395-709-10	Sequence 10, Appl1
20	188	87.4	40	US-10-262-141-14	Sequence 14, Appl1
21	182	84.7	40	US-10-021-403A-1	Sequence 1, Appl1
22	176	81.9	40	US-10-395-709-4	Sequence 4, Appl1
23	175	81.4	44	US-10-124-759-11	Sequence 11, Appl1
24	172	80.0	40	US-10-395-709-3	Sequence 3, Appl1
25	171	79.5	40	US-10-395-709-2	Sequence 2, Appl1
26	167	77.7	40	US-10-262-377-1	Sequence 1, Appl1
27	167	77.7	40	US-10-395-709-1	Sequence 1, Appl1
28	167	77.7	40	US-10-021-403A-8	Sequence 8, Appl1
29	167	77.7	40	US-10-262-141-1	Sequence 1, Appl1
30	165	76.7	35	US-10-004-530A-10	Sequence 10, Appl1
31	160	74.4	40	US-10-395-709-6	Sequence 6, Appl1
32	142	66.0	30	US-10-203-809-3	Sequence 3, Appl1
33	141	65.6	29	US-10-004-530A-11	Sequence 11, Appl1
34	141	65.6	29	US-10-203-809-2	Sequence 2, Appl1
35	141	65.6	29	US-10-203-809-4	Sequence 4, Appl1
36	141	65.6	29	US-10-203-809-5	Sequence 5, Appl1
37	137	63.7	29	US-10-004-530A-5	Sequence 5, Appl1
38	116.5	54.2	42	US-10-124-759-8	Sequence 8, Appl1
39	74	34.4	27	US-10-004-530A-18	Sequence 18, Appl1
40	71	33.0	176	US-10-279-554-3	Sequence 3, Appl1
41	65	30.2	28	US-09-929-818-118	Sequence 118, App
42	65	30.2	28	US-09-929-818-148	Sequence 148, App
43	64	29.8	28	US-09-929-818-126	Sequence 126, App
44	64	29.8	28	US-09-929-818-189	Sequence 189, App
45	64	29.8	45	US-10-360-101-240	Sequence 240, App

ALIGNMENTS

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RESULT 1
US-09-316-505-1
; Sequence 1, Application US/09316505
; Patent No. US20020111461A1
; GENERAL INFORMATION:
; APPLICANT: Burnier, John P.
; APPLICANT: Clark, Rose G.
; APPLICANT: Elias, Kathleen A.
; APPLICANT: McDowell, Robert S.
; APPLICANT: Rawson, Thomas E.
; APPLICANT: Somers, Todd C.
; APPLICANT: Stanley, Mark S.
; TITLE OF INVENTION: LOW MOLECULAR WEIGHT PEPTIDOMIMETIC GROWTH HORMONE SECRETAGOGUES
; FILE REFERENCE: P0850D2
; CURRENT APPLICATION NUMBER: US/09/316,505
; PRIOR FILING DATE: 1999-05-21
; PRIOR APPLICATION NUMBER: US 09/057,074
; PRIOR FILING DATE: 1998-04-08
; NUMBER OF SEQ ID NOS: 2
; SEQ ID NO 1
; LENGTH: 44
; TYPE: PRT
; ORGANISM: Homosapiens
US-09-316-505-1

Query Match      100.0%; Score 215; DB 10; Length 44;
Best Local Similarity 100.0%; Pred. No. 7.5e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARLTDIMSRQGSNORGARARL 44
DB 1 YADAFITNSYRKVLGQLSARLTDIMSRQGSNORGARARL 44

RESULT 2
US-10-224-640-1
; Sequence 1, Application US/10224640
; Publication No. US20030139348A1
```

GENERAL INFORMATION:
APPLICANT: Burnier, John P.
APPLICANT: Clark, Rosa G.
APPLICANT: Elias, Kathleen A.
APPLICANT: McDowell, Robert S.
APPLICANT: Rawson, Thomas E.
APPLICANT: Somers, Todd C.
APPLICANT: Stanley, Mark S.
TITLE OF INVENTION: LOW MOLECULAR WEIGHT PEPTIDOMIMETIC GROWTH HORMONE SECRETAGOGUES
FILE REFERENCE: P0850D2C1
CURRENT APPLICATION NUMBER: US/10/224,640
CURRENT FILING DATE: 2002-08-19
PRIOR APPLICATION NUMBER: US 09/057,074
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: US 08/340,767
PRIOR FILING DATE: 1994-11-16
PRIOR APPLICATION NUMBER: US 09/316,505
PRIOR FILING DATE: 1999-05-21
NUMBER OF SEQ ID NOS: 2
SEQ ID NO: 1
LENGTH: 44
TYPE: PRT
ORGANISM: Homosapiens
US-10-224-640-1

Query Match 100.0%; Score 215; DB 12; Length 44;
Best Local Similarity 100.0%; Pred. No. 7.5e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFNYSYRKVLGQLSARKLLDQIMSRQGESNQGARGARL 44
DB 1 YADAFNYSYRKVLGQLSARKLLDQIMSRQGESNQGARGARL 44

RESULT 3
US-10-360-101-262
Sequence 262, Application US/10360101
Publication No. US20040009550A1
GENERAL INFORMATION:
APPLICANT: Moll, Gert N.
APPLICANT: Leenhouts, Cornelis J.
TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
FILE REFERENCE: 2183-5673
CURRENT APPLICATION NUMBER: US/10/360,101
CURRENT FILING DATE: 2003-02-07
PRIOR APPLICATION NUMBER: EP 02077060.8
PRIOR FILING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 309
SOFTWARE: PatentIn version 3.1
SEQ ID NO 262
LENGTH: 44
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: sequence of Semorelin
US-10-360-101-262

Query Match 100.0%; Score 215; DB 12; Length 44;
Best Local Similarity 100.0%; Pred. No. 7.5e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFNYSYRKVLGQLSARKLLDQIMSRQGESNQGARGARL 44
DB 1 YADAFNYSYRKVLGQLSARKLLDQIMSRQGESNQGARGARL 44

RESULT 4
US-10-016-403-8
Sequence 8, Application US/10016403
Publication No. US20020107505A1
GENERAL INFORMATION:
APPLICANT: Holladay, Leslie A.
TITLE OF INVENTION: MODIFICATION OF POLYPEPTIDE DRUGS TO

INCREASE ELECTROTRANSPORT FLUX
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
ADDRESSEE: Stroud, Stroud, Willink, Thompson & Howard
STREET: 25 West Main Street
CITY: Madison
STATE: WI
COUNTRY: USA
ZIP: 53701-2236
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/016,403
FILING DATE: 10-Dec-2001
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/466,610
FILING DATE: 1995-JUN-06
ATTORNEY/AGENT INFORMATION:
NAME: Frenchick, Grady J.
REGISTRATION NUMBER: 29,018
REFERENCE/DOCKET NUMBER: 8734.28
TELECOMMUNICATION INFORMATION:
TELEPHONE: 608-257-2281
TELEFAX: 608-257-7643
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..44
OTHER INFORMATION: /note= "human growth hormone releasing hormone"
FEATURE:
NAME/KEY: Binding-site
LOCATION: 44
OTHER INFORMATION: /note= "carboxy terminal amide"
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-10-016-403-8

Query Match 100.0%; Score 215; DB 14; Length 44;
Best Local Similarity 100.0%; Pred. No. 7.5e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFNYSYRKVLGQLSARKLLDQIMSRQGESNQGARGARL 44
DB 1 YADAFNYSYRKVLGQLSARKLLDQIMSRQGESNQGARGARL 44

RESULT 5
US-10-197-954-77
Sequence 77, Application US/10197954
Publication No. US20030119021A1
GENERAL INFORMATION:
APPLICANT: K"ster, Hubert
APPLICANT: Stidiger, Daniel
TITLE OF INVENTION: Capture Compounds, Collections Thereof
TITLE OF INVENTION: And Methods For Analyzing The Proteome And Complex
FILE REFERENCE: 24743-2305
CURRENT APPLICATION NUMBER: US/10/197,954
CURRENT FILING DATE: 2002-07-16
PRIOR APPLICATION NUMBER: 60/306,019
PRIOR FILING DATE: 2001-07-16
PRIOR APPLICATION NUMBER: 60/314,123
PRIOR FILING DATE: 2001-08-21
PRIOR APPLICATION NUMBER: 60/363,433

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/ PRIOR FILING DATE: 2002-03-11
/ NUMBER OF SEQ ID NOS: 149
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 77
/ LENGTH: 44
/ TYPE: PRT
/ ORGANISM: Homo Sapiens
US-10-197-954-77

Query Match          100.0%; Score 215; DB 15; Length 44;
Best Local Similarity 100.0%; Pred. No. 7.5e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44

RESULT 6
US-10-147-087-2
/ Sequence 2, Application US/10147087
/ Publication No. US20030013637A1
/ GENERAL INFORMATION:
/ APPLICANT: IKUSHIMA, Hideco
/ TITLE OF INVENTION: No. US20030013637A1e1 Anti-Autoimmune Composition By Inhibition C
/ FILE REFERENCE: 0950-011P
/ CURRENT APPLICATION NUMBER: US/10/147,087
/ PRIOR FILING DATE: 2002-05-17
/ PRIOR APPLICATION NUMBER: JP 2001-148607
/ PRIOR FILING DATE: 2001-05-18
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 2
/ LENGTH: 108
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-10-147-087-2

Query Match          100.0%; Score 215; DB 15; Length 108;
Best Local Similarity 100.0%; Pred. No. 2.2e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 32 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 75

RESULT 7
US-10-004-530A-20
/ Sequence 20, Application US/10004530A
/ Publication No. US20030050436A1
/ GENERAL INFORMATION:
/ APPLICANT: COY, David H.
/ APPLICANT: Moreau, Jacques-Pierre
/ APPLICANT: Kim, Sun H.
/ TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS
/ FILE REFERENCE: 00537-00900K
/ CURRENT APPLICATION NUMBER: US/10/004,530A
/ CURRENT FILING DATE: 2002-08-09
/ PRIOR APPLICATION NUMBER: 09/260,846
/ PRIOR FILING DATE: 1999-03-02
/ PRIOR APPLICATION NUMBER: 08/337,127
/ PRIOR FILING DATE: 1994-11-10
/ PRIOR APPLICATION NUMBER: 07/779,039
/ PRIOR FILING DATE: 1991-10-18
/ PRIOR APPLICATION NUMBER: 07/502,438
/ PRIOR FILING DATE: 1990-03-30
/ PRIOR APPLICATION NUMBER: 07/397,169
/ PRIOR FILING DATE: 1989-08-21
/ PRIOR APPLICATION NUMBER: 07/376,555
/ PRIOR FILING DATE: 1989-07-07
/ PRIOR APPLICATION NUMBER: 07/317,941
/ PRIOR FILING DATE: 1989-03-02
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/ PRIOR APPLICATION NUMBER: 07/282,328
/ PRIOR FILING DATE: 1988-12-09
/ PRIOR APPLICATION NUMBER: 07/257,998
/ PRIOR FILING DATE: 1988-10-14
/ PRIOR APPLICATION NUMBER: 07/248,771
/ PRIOR FILING DATE: 1988-09-23
/ Prior Application data removed - See File Wrapper or PALM.
/ NUMBER OF SEQ ID NOS: 26
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 20
/ LENGTH: 44
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-10-004-530A-20

Query Match          98.1%; Score 211; DB 15; Length 44;
Best Local Similarity 97.7%; Pred. No. 2.7e-22;
Matches 43; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44

RESULT 8
US-10-360-101-175
/ Sequence 175, Application US/10360101
/ Publication No. US20040009550A1
/ GENERAL INFORMATION:
/ APPLICANT: Moll, Gert N.
/ APPLICANT: Leenhouts, Cornelis J.
/ TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
/ FILE REFERENCE: 2183-5673
/ CURRENT APPLICATION NUMBER: US/10/360,101
/ CURRENT FILING DATE: 2003-02-07
/ PRIOR APPLICATION NUMBER: EP 02077060.8
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 309
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 175
/ LENGTH: 44
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: C22-sequence of growth hormone release factor
US-10-360-101-175

Query Match          97.7%; Score 210; DB 12; Length 44;
Best Local Similarity 97.7%; Pred. No. 3.8e-22;
Matches 43; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44

RESULT 9
US-10-016-403-9
/ Sequence 9, Application US/10016403
/ Publication No. US20020107505A1
/ GENERAL INFORMATION:
/ APPLICANT: Holladay, Leslie A.
/ TITLE OF INVENTION: MODIFICATION OF POLYPEPTIDE DRUGS TO
/ INCREASE ELECTROTRANSPORT FLUX
/ NUMBER OF SEQUENCES: 10
/ CORRESPONDENCE ADDRESS:
/ ADDRESSER: Stroud, Stroud, Willink, Thompson & Howard
/ STREET: 25 West Main Street
/ CITY: Madison
/ STATE: WI
/ COUNTRY: USA
/ ZIP: 53701-2236
/ COMPUTER READABLE FORM:
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; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/016,403
; FILING DATE: 10-Dec-2001
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/466,610
; FILING DATE: 1995-JUN-06
; ATTORNEY/AGENT INFORMATION:
; NAME: Frenchick, Grady J.
; REGISTRATION NUMBER: 29,018
; REFERENCE/DOCKET NUMBER: 8734.28
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 608-257-2281
; TELEFAX: 608-257-7643
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
;
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1..44
; OTHER INFORMATION: /note= "modified hormone growth
; hormone releasing hormone"
;
; FEATURE:
; NAME/KEY: Binding-site
; LOCATION: 44
; OTHER INFORMATION: /note= "carboxy terminal amide"
;
; SEQUENCE DESCRIPTION: SEQ ID NO: 9:
US-10-016-403-9
;
Query Match 95.3%; Score 205; DB 14; Length 44;
Best Local Similarity 95.5%; Pred. No. 1.9e-21;
Matches 42; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLDIMSROOGESNOERGAR 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROOGESNOERGAR 44

RESULT 10
US-09-420-785A-1
; Sequence 1, Application US/09420785A
; Patent No. US20010010923A1
; GENERAL INFORMATION:
; APPLICANT: MORTENSEN, UFFE
; APPLICANT: OLESEN, KJELD
; APPLICANT: STENNICKE, HENNING
; APPLICANT: SORENSSEN, STEEN B.
; APPLICANT: BREDDAM, KLAUS
; TITLE OF INVENTION: MODIFIED CARBOXYPEPTIDASE
; FILE REFERENCE: 089187/0109
; CURRENT APPLICATION NUMBER: US/09/420,785A
; CURRENT FILING DATE: 1999-10-19
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 1
; LENGTH: 44
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: VARIANT
; LOCATION: (44)
; OTHER INFORMATION: C-terminal amino acid which serves as a leaving
; OTHER INFORMATION: group, typically, an uncharged amino acid side
; OTHER INFORMATION: chain, preferably alanine
US-09-420-785A-1
Query Match 94.4%; Score 203; DB 9; Length 44;
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Best Local Similarity 97.7%; Pred. No. 3.6e-21;
Matches 42; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLDIMSROOGESNOERGAR 43
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROOGESNOERGAR 43

RESULT 11
US-10-124-759-6
; Sequence 6, Application US/10124759
; Publication No. US20030055017A1
; GENERAL INFORMATION:
; APPLICANT: Schwartz, Robert J.
; APPLICANT: Draghia-Akli, Ruxandra
; APPLICANT: Li, Xuyang
; APPLICANT: Eastman, Eric
; TITLE OF INVENTION: GHRH Expression System and Methods of Use
; FILE REFERENCE: 236/006 GeneMedicine
; CURRENT APPLICATION NUMBER: US/10/124,759
; CURRENT FILING DATE: 2002-04-16
; PRIOR APPLICATION NUMBER: US/09/122,171
; PRIOR FILING DATE: 1998-07-24
; PRIOR APPLICATION NUMBER: 60/053,609
; PRIOR FILING DATE: 1997-07-24
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 6
; LENGTH: 44
; TYPE: PRT
; ORGANISM: Sus scrofa GHRH
US-10-124-759-6
;
Query Match 94.0%; Score 202; DB 15; Length 44;
Best Local Similarity 93.2%; Pred. No. 5e-21;
Matches 41; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
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Cy 1 YADAFITNSYRKVLGQLSARKLLDIMSROOGESNOERGAR 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROOGESNOERGAR 44

RESULT 12
US-10-124-759-10
; Sequence 10, Application US/10124759
; Publication No. US20030055017A1
; GENERAL INFORMATION:
; APPLICANT: Schwartz, Robert J.
; APPLICANT: Draghia-Akli, Ruxandra
; APPLICANT: Li, Xuyang
; APPLICANT: Eastman, Eric
; TITLE OF INVENTION: GHRH Expression System and Methods of Use
; FILE REFERENCE: 236/006 GeneMedicine
; CURRENT APPLICATION NUMBER: US/10/124,759
; CURRENT FILING DATE: 2002-04-16
; PRIOR APPLICATION NUMBER: US/09/122,171
; PRIOR FILING DATE: 1998-07-24
; PRIOR APPLICATION NUMBER: 60/053,609
; PRIOR FILING DATE: 1997-07-24
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 10
; LENGTH: 40
; TYPE: PRT
; ORGANISM: Homo sapiens GHRH
US-10-124-759-10
;
Query Match 91.6%; Score 197; DB 15; Length 40;
Best Local Similarity 100.0%; Pred. No. 2.2e-20;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 40

RESULT 13

US-10-124-759-5
 ; Sequence 5, Application US/10124759
 ; Publication No. US20030055017A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Schwartz, Robert J.
 ; APPLICANT: Draghia-Akli, Roxandra
 ; APPLICANT: Li, Xuyang
 ; APPLICANT: Eastman, Eric
 ; TITLE OF INVENTION: GHRH Expression System and Methods of Use
 ; FILE REFERENCE: 236/006 Genemedicine
 ; CURRENT APPLICATION NUMBER: US/10/124,759
 ; CURRENT FILING DATE: 2002-04-16
 ; PRIOR APPLICATION NUMBER: US/09/122,171
 ; PRIOR FILING DATE: 1998-07-24
 ; PRIOR APPLICATION NUMBER: 60/053,609
 ; PRIOR FILING DATE: 1997-07-24
 ; NUMBER OF SEQ ID NOS: 15
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 5
 ; LENGTH: 44
 ; TYPE: PRT
 ; ORGANISM: Bos taurus GHRH
 US-10-124-759-5

Query Match 91.2%; Score 196; DB 15; Length 44;
 Best Local Similarity 88.6%; Pred. No. 3,4e-20;
 Matches 39; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 44
 Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 44

RESULT 14

US-10-124-759-9
 ; Sequence 9, Application US/10124759
 ; Publication No. US20030055017A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Schwartz, Robert J.
 ; APPLICANT: Draghia-Akli, Roxandra
 ; APPLICANT: Li, Xuyang
 ; APPLICANT: Eastman, Eric
 ; TITLE OF INVENTION: GHRH Expression System and Methods of Use
 ; FILE REFERENCE: 236/006 Genemedicine
 ; CURRENT APPLICATION NUMBER: US/10/124,759
 ; CURRENT FILING DATE: 2002-04-16
 ; PRIOR APPLICATION NUMBER: US/09/122,171
 ; PRIOR FILING DATE: 1998-07-24
 ; PRIOR APPLICATION NUMBER: 60/053,609
 ; PRIOR FILING DATE: 1997-07-24
 ; NUMBER OF SEQ ID NOS: 15
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 9
 ; LENGTH: 44
 ; TYPE: PRT
 ; ORGANISM: Capra hircus GHRH
 US-10-124-759-9

Query Match 91.2%; Score 196; DB 15; Length 44;
 Best Local Similarity 88.6%; Pred. No. 3,4e-20;
 Matches 39; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 44
 Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 44

RESULT 15
 US-10-016-403-10

; Sequence 10, Application US/10016403
 ; Publication No. US20020107505A1

GENERAL INFORMATION:

APPLICANT: Holladay, Leslie A.
 TITLE OF INVENTION: MODIFICATION OF POLYPEPTIDE DRUGS TO INCREASE ELECTROTRANSPORT FLUX

NUMBER OF SEQUENCE: 10

CORRESPONDENCE ADDRESS:

ADDRESSEE: Stroud, Willink, Thompson & Howard

STREET: 25 West Main Street

CITY: Madison

STATE: WI

COUNTRY: USA

ZIP: 53701-2236

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/016,403

FILING DATE: 10-Dec-2001

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/466,610

FILING DATE: 1995-JUN-06

ATTORNEY/AGENT INFORMATION:

NAME: Frenchick, Grady J.

REGISTRATION NUMBER: 29,018

REFERENCE/DOCKET NUMBER: 8734,28

TELECOMMUNICATION INFORMATION:

TELEPHONE: 608-257-2281

TELEFAX: 608-257-7643

INFORMATION FOR SEQ ID NO: 10:

SEQUENCE CHARACTERISTICS:

LENGTH: 44 amino acids

TYPE: amino acid

TOPOLOGY: linear

FEATURE:

NAME/KEY: Peptide

LOCATION: 1..44

OTHER INFORMATION: /note= "modified human growth hormone release hormone"

FEATURE:

NAME/KEY: Binding-site

LOCATION: 44

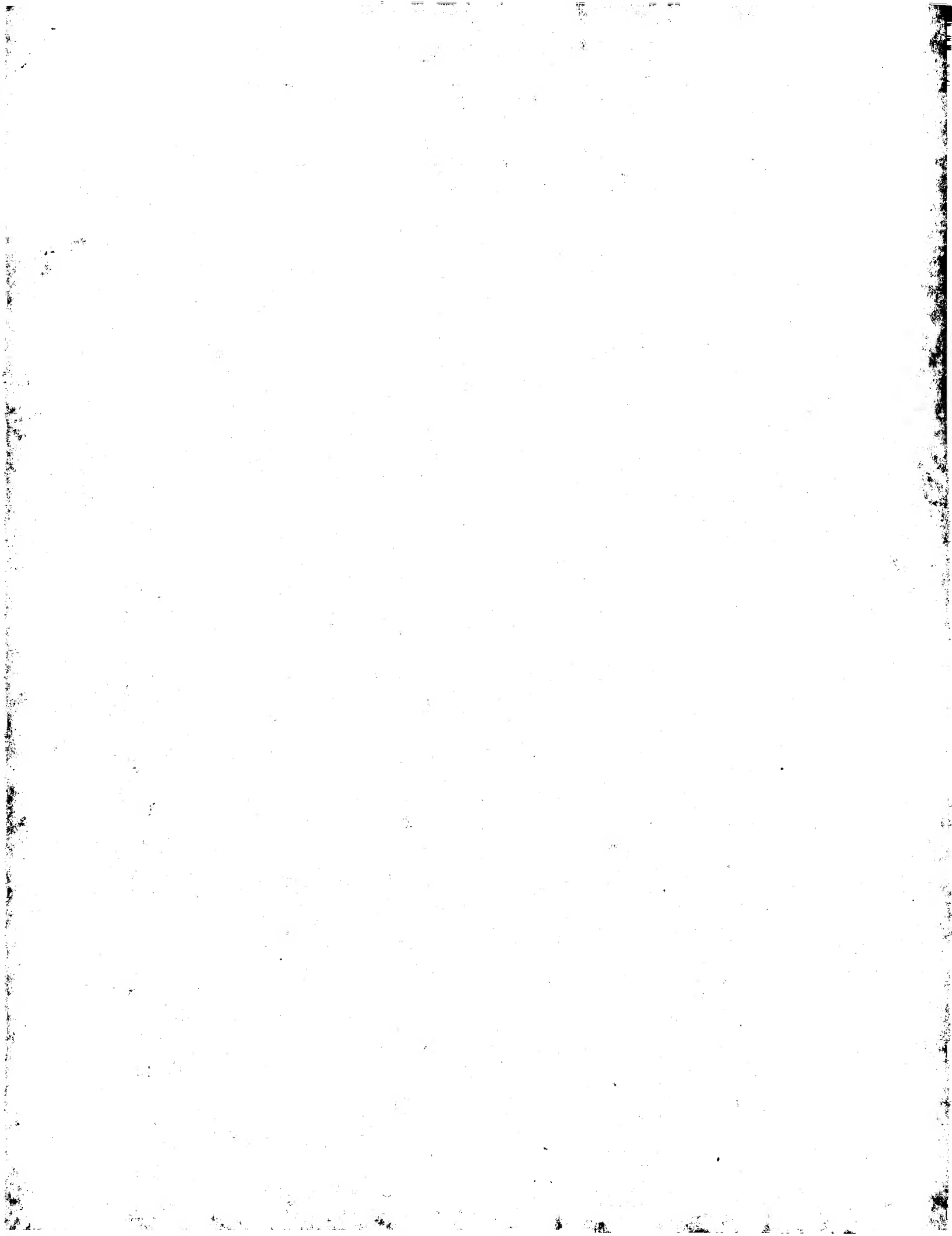
OTHER INFORMATION: /note= "carboxy terminal amide"

SEQUENCE DESCRIPTION: SEQ ID NO: 10:

US-10-016-403-10

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 44
 Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMRQGESNOERGARA 44

Search completed: February 11, 2004, 11:50:41
 Job time : 35 secs



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OM protein - protein search, using sw model

Run on: February 11, 2004, 11:51:13 ; Search time 171 Seconds

(without alignments)
234.131 Million cell updates/sec

Title: 09-786639

Perfect score: 215

Sequence: 1 yadaftrneyrkvlqglar.....dimxqgsemdgerararl 44

Scoring table:

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Gapop 10.0 , Gapext 0.5

Searched: 5728757 seqs, 909918778 residues

Total number of hits satisfying chosen parameters: 55

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 100%

Maximum Match 100%
Listing filter 250 summaries

Database : Pending Patents AA Main:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	215	100.0	44	1	PCT-US01-17573-31 Sequence 31, App1

2	215	100.0	44	1	PCT-US02-22821-77 Sequence 77, App1
3	215	100.0	44	1	PCT-US02-40891-455 Sequence 455, App
4	215	100.0	44	1	PCT-US03-16643-39 Sequence 39, App1
5	215	100.0	44	1	PCT-US03-16645-12 Sequence 12, App1
6	215	100.0	44	7	US-08-312-244-1 Sequence 1, App1
7	215	100.0	44	7	US-08-350-528-57 Sequence 57, App1
8	215	100.0	44	7	US-08-350-530A-20 Sequence 20, App1
9	215	100.0	44	7	US-08-379-039-3 Sequence 3, App1
10	215	100.0	44	7	US-08-379-0398-3 Sequence 1, App1
11	215	100.0	44	8	US-08-453-067-1 Sequence 1, App1
12	215	100.0	44	8	US-08-466-610-8 Sequence 8, App1
13	215	100.0	44	9	US-08-520-485-16 Sequence 16, App1
14	215	100.0	44	9	US-08-520-485-25 Sequence 25, App1
15	215	100.0	44	9	US-08-552-596-1 Sequence 1, App1
16	215	100.0	44	10	US-08-651-645-1 Sequence 1, App1
17	215	100.0	44	10	US-08-685-357-1 Sequence 1, App1
18	215	100.0	44	13	US-08-934-171-57 Sequence 57, App1
19	215	100.0	44	17	US-09-316-505-1 Sequence 1, App1
20	215	100.0	44	20	US-09-623-548A-111 Sequence 111, App
21	215	100.0	44	20	US-09-657-276-111 Sequence 111, App
22	215	100.0	44	22	US-09-786-639-1 Sequence 1, App1
23	215	100.0	44	26	US-10-016-403-8 Sequence 8, App1
24	215	100.0	44	27	US-10-197-954-77 Sequence 77, App1
25	215	100.0	44	28	US-10-224-640-1 Sequence 1, App1
26	215	100.0	44	29	US-10-360-101-262 Sequence 262, App
27	215	100.0	45	7	US-08-350-530A-31 Sequence 17, App1
28	215	100.0	45	9	US-08-520-485-17 Sequence 21, App1
29	215	100.0	45	9	US-08-520-485-21 Sequence 21, App1
30	215	100.0	45	9	US-08-520-485-26 Sequence 26, App1
31	215	100.0	46	10	US-08-680-004-15 Sequence 15, App1
32	215	100.0	46	19	US-09-597-734-15 Sequence 15, App1
33	215	100.0	46	19	US-09-597-734A-15 Sequence 58, App1
34	215	100.0	49	7	US-08-350-528-58 Sequence 58, App1
35	215	100.0	49	13	US-08-934-171-58 Sequence 88, App1
36	215	100.0	50	17	US-09-341-590-88 Sequence 89, App1
37	215	100.0	50	17	US-09-341-590-89 Sequence 6, App1
38	215	100.0	69	7	US-08-350-528-6 Sequence 6, App1
39	215	100.0	69	13	US-08-934-171-6 Sequence 122, App
40	215	100.0	76	1	PCT-US03-16643-122 Sequence 124, App
41	215	100.0	99	1	PCT-US03-16643-124 Sequence 128, App
42	215	100.0	99	1	PCT-US03-16645-78 Sequence 120, App
43	215	100.0	101	1	PCT-US03-16643-120 Sequence 2, App1
44	215	100.0	101	1	PCT-US03-16647-2 Sequence 9, App1
45	215	100.0	101	1	PCT-US03-16647-9 Sequence 6, App1
46	215	100.0	102	1	PCT-US03-16647-6 Sequence 128, App
47	215	100.0	103	1	PCT-US03-16643-126 Sequence 128, App
48	215	100.0	103	1	PCT-US03-16643-128 Sequence 134, App
49	215	100.0	103	1	PCT-US03-16643-130 Sequence 454, App
50	215	100.0	108	1	PCT-US02-40891-454 Sequence 2, App1
51	215	100.0	108	27	US-10-147-087-2 Sequence 8, App1
52	215	100.0	122	7	US-08-350-528-8 Sequence 8, App1
53	215	100.0	122	13	US-08-934-171-8 Sequence 238, App
54	215	100.0	653	1	PCT-US02-40891-238 Sequence 238, App
55	215	100.0	653	1	PCT-US02-40891-239 Sequence 239, App

ALIGNMENTS

RESULT 1
PCT-US01-17573-31
Sequence 31, Application PC/RTUS0117573
GENERAL INFORMATION:
APPLICANT: Nordstrom, Jeffrey
INVENTOR: Draghila-Ali, Ruxandra
TITLE OF INVENTION: REGULATED EXPRESSION OF GHRH
FILE REFERENCE: 265/042 PCT
CURRENT APPLICATION NUMBER: PCT/US01/17573
CURRENT FILING DATE: 2001-05-30
NUMBER OF SEQ ID NOS: 34
SOFTWARE: PatentIn version 3.0
SEQ ID NO 31
LENGTH: 44

TYPE: PRT
ORGANISM: Homo sapiens
PCT-US01-17573-31

Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 44;
Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44
DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44

RESULT 2
PCT-US02-22821-77

Sequence 77, Application PC/TUS0222821
GENERAL INFORMATION:
APPLICANT: HK Pharmaceuticals, Inc.
APPLICANT: Koister, Hubert
APPLICANT: Siddiqi, Suhail
APPLICANT: Little, Daniel
TITLE OF INVENTION: Capture Compounds, Collections Thereof
TITLE OF INVENTION: And Methods For Analyzing The Proteome And Complex
FILE REFERENCE: 24743-2305
CURRENT APPLICATION NUMBER: PCT/US02/22821
CURRENT FILING DATE: 2002-07-16
PRIOR APPLICATION NUMBER: 60/306,019
PRIOR FILING DATE: 2001-07-16
PRIOR APPLICATION NUMBER: 60/314,123
PRIOR FILING DATE: 2001-08-21
PRIOR APPLICATION NUMBER: 60/363,433
PRIOR FILING DATE: 2002-03-11
NUMBER OF SEQ ID NOS: 149
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 77
LENGTH: 44
TYPE: PRT
ORGANISM: Homo Sapien
PCT-US02-22821-77

Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 44;
Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44
DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44

RESULT 3
PCT-US02-40891-455

Sequence 455, Application PC/TUS0240891
GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PFS64PCT
CURRENT APPLICATION NUMBER: PCT/US02/40891
CURRENT FILING DATE: 2002-12-23
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/360,000
PRIOR FILING DATE: 2002-02-28
PRIOR APPLICATION NUMBER: 60/378,950
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/398,008
PRIOR FILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR FILING DATE: 2002-09-18
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR FILING DATE: 2002-10-02
PRIOR APPLICATION NUMBER: 60/417,611
PRIOR FILING DATE: 2002-10-11

PRIOR APPLICATION NUMBER: 60/420,246
PRIOR FILING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60/423,623
PRIOR FILING DATE: 2002-11-05
PRIOR APPLICATION NUMBER: 60/351,360
PRIOR FILING DATE: 2002-01-28
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 2222
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 455
LENGTH: 44
TYPE: PRT
ORGANISM: Homo sapiens
PCT-US02-40891-455

Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 44;
Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44
DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44

RESULT 4
PCT-US03-16643-39

Sequence 39, Application PC/TUS0316643
GENERAL INFORMATION:
APPLICANT: Wagner, F.
APPLICANT: Peng, L.
APPLICANT: Xia, U.
APPLICANT: Holmquist, B.
TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypepti
FILE REFERENCE: 1627.010M01
CURRENT APPLICATION NUMBER: PCT/US03/16643
CURRENT FILING DATE: 2003-05-23
PRIOR APPLICATION NUMBER: US 60/383,370
PRIOR FILING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 148
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 39
LENGTH: 44
TYPE: PRT
ORGANISM: Unknown
FEATURE:
OTHER INFORMATION: GRF(1-44).
PCT-US03-16643-39

Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 44;
Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44
DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARL 44

RESULT 5
PCT-US03-16645-12

Sequence 12, Application PC/TUS0316645
GENERAL INFORMATION:
APPLICANT: Wagner, F.
APPLICANT: Peng, L.
APPLICANT: Xia, U.
APPLICANT: Holmquist, B.
TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypepti
FILE REFERENCE: 1627.009W01
CURRENT APPLICATION NUMBER: PCT/US03/16645
CURRENT FILING DATE: 2003-05-23
PRIOR APPLICATION NUMBER: US 60/383,212
PRIOR FILING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 93
SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 12
LENGTH: 44
TYPE: PRT
ORGANISM: Unknown
FEATURE:
OTHER INFORMATION: GRF(1-44).
PCT-US03-16645-12

Query Match 100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 6

US-08-312-244-1
Sequence 1, Application US/08312244
GENERAL INFORMATION:
APPLICANT: CAUDREAU, Pierrette
TITLE OF INVENTION: MARKER FOR GROWTH HORMONE-RELEASING
TITLE OF INVENTION: FACTOR RECEPTORS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kevin M. Parrell, P. C.
STREET: 12 Riverwood Drive - P.O. Box 999
CITY: York Harbor
STATE: ME
COUNTRY: U.S.A.
ZIP: 03911

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/312,244
FILING DATE:

CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: PARRELL, Kevin M.
REGISTRATION NUMBER: 35,505
TELECOMMUNICATION INFORMATION:
TELEPHONE: (207) 363-0558
TELEFAX: (207) 363-0528
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRADEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-08-312-244-1

Query Match 100.0%; Score 215; DB 7; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 7

US-08-350-528-57
Sequence 57, Application US/08350528
GENERAL INFORMATION:
APPLICANT: Stout, Jay
APPLICANT: Partridge, Bruce
APPLICANT: Henriksen, Dennis

APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED PEPTIDES FROM RECOMB
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest
CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/350,528
FILING DATE: 07-DEC-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:

FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648,43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:

INFORMATION FOR SEQ ID NO: 57:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRADEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
US-08-350-528-57

Query Match 100.0%; Score 215; DB 7; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 8

US-08-350-530A-20
Sequence 20, Application US/08350530A
GENERAL INFORMATION:
APPLICANT: Partridge, Bruce
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Manning, Shane
APPLICANT: De la Motte, Rebecca
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF PEPTIDE USING RECOMBINANT
TITLE OF INVENTION: FUSION PROTEIN CONSTRUCTS
NUMBER OF SEQUENCES: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.

ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASESEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/350,530A
FILING DATE: 07-DEC-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648,45US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612/332-5300
TELEFAX: 612/332-9081
TELEX:
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
US-08-350-530A-20

Query Match 100.0%; Score 215; DB 7; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARLKLQDIMSRQGESNOERGARL 44
Db 1 YADAIFTNSYRKVLGQLSARLKLQDIMSRQGESNOERGARL 44

RESULT 9
US-08-379-039-3
Sequence 3, Application US/08379039
GENERAL INFORMATION:
APPLICANT: Funakoshi, Susumu
TITLE OF INVENTION: Peptide Purification Method Using Novel
TITLE OF INVENTION: Linker and Solid-Phase Ligand (as amended)
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSES: Hamilton, Brook, Smith & Reynolds, P.C.
STREET: Two Militia Drive
CITY: Lexington
STATE: Massachusetts
COUNTRY: USA
ZIP: 02173
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/379,039
FILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/044,325
FILING DATE: 07-APR-1993
ATTORNEY/AGENT INFORMATION:
NAME: Carroll, Alice O.

REGISTRATION NUMBER: 33,542
REFERENCE/DOCKET NUMBER: NML90-01A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
TELEFAX: (617) 861-9540
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-379-039-3

Query Match 100.0%; Score 215; DB 7; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARLKLQDIMSRQGESNOERGARL 44
Db 1 YADAIFTNSYRKVLGQLSARLKLQDIMSRQGESNOERGARL 44

RESULT 10
US-08-379-039B-3
Sequence 3, Application US/08379039B
GENERAL INFORMATION:
APPLICANT: Funakoshi, Susumu
TITLE OF INVENTION: Peptide Purification Method Using
TITLE OF INVENTION: Novel
TITLE OF INVENTION: Linker and Solid-Phase Ligand (as amended)
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSES: Hamilton, Brook, Smith & Reynolds, P.C.
STREET: Two Militia Drive
CITY: Lexington
STATE: Massachusetts
COUNTRY: USA
ZIP: 02173
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/379,039B
FILING DATE: 27-JAN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Carroll, Alice O.
REGISTRATION NUMBER: 33,542
REFERENCE/DOCKET NUMBER: NML90-01A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
TELEFAX: (617) 861-9540
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-379-039B-3

Query Match 100.0%; Score 215; DB 7; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARLKLQDIMSRQGESNOERGARL 44
Db 1 YADAIFTNSYRKVLGQLSARLKLQDIMSRQGESNOERGARL 44

RESULT 11

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US-08-453-067-1
; Sequence 1, Application US/08453067
; GENERAL INFORMATION:
; APPLICANT: BRAZEAU, Paul
; APPLICANT: ABRIBAT, Thierry
; APPLICANT: IBEA, Michel
; TITLE OF INVENTION: CHIMERIC FATTY BODY-GRF ANALOGS WITH
; TITLE OF INVENTION: INCREASED BIOLOGICAL POTENCY
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Birch, Stewart, Kolasch and Birch
; STREET: P.O. Box 747
; CITY: Falls Church
; STATE: Virginia
; COUNTRY: U.S.A.
; ZIP: 22040-0747
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/453.067
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: MURPHY, Gerald M.
; REGISTRATION NUMBER: 28,977
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 205-8000
; TELEFAX: (703) 205-8050
; TELEX: 248345
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
;
US-08-453-067-1
Query Match 100.0%; Score 215; DB 8; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAIFTNSYRKVLGQLSARLKLQDIMSROGESNQRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARLKLQDIMSROGESNQRGARRL 44

RESULT 12
US-08-466-610-8
; Sequence 8, Application US/08466610
; GENERAL INFORMATION:
; APPLICANT: Holladay, Leslie A.
; TITLE OF INVENTION: MODIFICATION OF POLYPEPTIDE DRUGS TO
; TITLE OF INVENTION: INCREASE ELECTROTRANSPORT FLUX
; NUMBER OF SEQUENCES: 10
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Stroud, Willink, Thompson & Howard
; STREET: 25 West Main Street
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-2236
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/466,610
```

```
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Frenchick, Grady J.
; REGISTRATION NUMBER: 29,018
; REFERENCE/DOCKET NUMBER: 8734.28
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 608-257-2281
; TELEFAX: 608-257-7643
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1..44
; OTHER INFORMATION: /note="human growth hormone
; OTHER INFORMATION: releasing hormone"
; FEATURE:
; NAME/KEY: Binding-site
; LOCATION: 44
; OTHER INFORMATION: /note="carboxy terminal amide"
;
US-08-466-610-8
Query Match 100.0%; Score 215; DB 8; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAIFTNSYRKVLGQLSARLKLQDIMSROGESNQRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARLKLQDIMSROGESNQRGARRL 44
```

```
RESULT 13
US-08-520-485-16
; Sequence 16, Application US/08520485
; GENERAL INFORMATION:
; APPLICANT: Wagner, Fred W.
; APPLICANT: Stout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 Norwest Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/520,485
; FILING DATE: 29-AUG-1995
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G.
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.32-USD1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-9081
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
```

MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)
US-08-520-485-16

Query Match 100.0%; Score 215; DB 9; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLDIDMSRQGESNOEGARARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLDIDMSRQGESNOEGARARL 44

RESULT 14
US-08-520-485-25

Sequence 25, Application US/08520485

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,485
FILING DATE: 29-AUG-1995
CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDL
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid

TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu

US-08-520-485-25

Query Match 100.0%; Score 215; DB 9; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLDIDMSRQGESNOEGARARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLDIDMSRQGESNOEGARARL 44

RESULT 15
US-08-552-596-1

Sequence 1, Application US/08552596
GENERAL INFORMATION:
APPLICANT: IBEA, Michel
APPLICANT: BRAZEAU, Paul

TITLE OF INVENTION: NEW METHOD OF GRF PEPTIDES SYNTHESIS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Klauber & Jackson
STREET: 411 Hackensack Avenue
CITY: Hackensack
STATE: New Jersey
COUNTRY: U.S.A.
ZIP: 07601

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/552,596
FILING DATE:

CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: JACKSON, David A.
REGISTRATION NUMBER: 26,742
TELECOMMUNICATION INFORMATION:
TELEPHONE: (201) 487-5800
TELEFAX: (201) 343-1684
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: peptide
HYPOTHETICAL: NO

US-08-552-596-1

Query Match 100.0%; Score 215; DB 9; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLDIDMSRQGESNOEGARARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLDIDMSRQGESNOEGARARL 44

RESULT 16
US-08-651-645-1

Sequence 1, Application US/08651645

GENERAL INFORMATION:
APPLICANT: BRAZEAU, Paul
APPLICANT: ABRIBAT, Thierry
APPLICANT: IBEA, Michel
TITLE OF INVENTION: CHIMERIC FATTY BODY-PRO-GRF ANALOGS WITH
INCREASED BIOLOGICAL POTENCY
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Birch, Stewart, Kolasch and Birch
STREET: P.O. Box 747
CITY: Falls Church
STATE: Virginia
COUNTRY: U.S.A.
ZIP: 22040-0747

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/651,645
FILING DATE:

CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/453,067
FILING DATE: 26-MAY-1995
ATTORNEY/AGENT INFORMATION:

US-08-651-645-1

NAME: MURPHY, Gerald M.
REGISTRATION NUMBER: 28,977
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
TELEX: 248345
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-08-651-645-1

Query Match 100.0%; Score 215; DB 10; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44
DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

RESULT 17
US-08-685-357-1
Sequence 1, Application US/08685357
GENERAL INFORMATION:
APPLICANT: GAUDREAU, Pierrette
TITLE OF INVENTION: MARKER FOR GROWTH HORMONE-RELEASING
TITLE OF INVENTION: FACTOR RECEPTORS
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kevin M. Farrell, P.C.
STREET: 12 Riverwood Drive - P.O. Box 999
CITY: York Harbor
STATE: ME
COUNTRY: U.S.A.
ZIP: 03911
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/685.357
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/312,244
FILING DATE: 23-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: FARRELL, Kevin M.
REGISTRATION NUMBER: 35,505
TELECOMMUNICATION INFORMATION:
TELEPHONE: (207) 363-0558
TELEFAX: (207) 363-0528
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-08-685-357-1

Query Match 100.0%; Score 215; DB 10; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

RESULT 18
US-08-934-171-57
Sequence 57, Application US/08934171
GENERAL INFORMATION:
APPLICANT: Scout, Jay
APPLICANT: Partridge, Bruce
APPLICANT: Henriksen, Dennis
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED
PEPTIDES FROM RECOMBINANT PROTEIN CS
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Norwest
CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FacsEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/934,171
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350,528
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 57:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
US-08-934-171-57

Query Match 100.0%; Score 215; DB 13; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44
DB 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

RESULT 19
US-09-316-505-1
Sequence 1, Application US/09316505
GENERAL INFORMATION:
APPLICANT: Burnier, John P.
APPLICANT: Clark, Ross G.
APPLICANT: Elias, Kathleen A.
APPLICANT: McDowell, Robert S.

APPLICANT: Rawson, Thomas E.
APPLICANT: Somers, Todd C.
APPLICANT: Stanley, Mark S.
TITLE OF INVENTION: LOW MOLECULAR WEIGHT PEPTIDOMIMETIC GROWTH HORMONE SECRETAGOGUES
FILE REFERENCE: P085002
CURRENT APPLICATION NUMBER: US/09/316,505
CURRENT FILING DATE: 1999-05-21
PRIOR APPLICATION NUMBER: US 09/057,074
PRIOR FILING DATE: 1998-04-08
NUMBER OF SEQ ID NOS: 2
SEQ ID NO 1
LENGTH: 44
TYPE: PRT
ORGANISM: Homosapiens
US-09-316-505-1

Query Match 100.0%; Score 215; DB 17; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44

RESULT 20
US-09-623-548A-111
Sequence 111, Application US/09623548A

GENERAL INFORMATION:
APPLICANT: Conjuchem, Inc.
APPLICANT: Ezrin, Alan
APPLICANT: Milner, Peter
APPLICANT: Thibaudau, Karen
TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
FILE REFERENCE: 2110
CURRENT APPLICATION NUMBER: US/09/623,548A
CURRENT FILING DATE: 2000-09-05
PRIOR APPLICATION NUMBER: 60/134,406
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: 60/153,406
PRIOR FILING DATE: 1999-09-10
PRIOR APPLICATION NUMBER: 60/159,783
PRIOR FILING DATE: 1999-10-18
NUMBER OF SEQ ID NOS: 1617
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 111
LENGTH: 44
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: Peptide
US-09-623-548A-111

Query Match 100.0%; Score 215; DB 20; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44

RESULT 21
US-09-657-276-111
Sequence 111, Application US/09657276
GENERAL INFORMATION:
APPLICANT: Conjuchem, Inc.
APPLICANT: Bridon, Dominique

APPLICANT: Ezrin, Alan
APPLICANT: Milner, Peter
APPLICANT: Thibaudau, Karen
TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
FILE REFERENCE: 2110
CURRENT APPLICATION NUMBER: US/09/657,276
CURRENT FILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: 60/134,406
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: 60/153,406
PRIOR FILING DATE: 1999-09-10
PRIOR APPLICATION NUMBER: 60/159,783
PRIOR FILING DATE: 1999-10-18
NUMBER OF SEQ ID NOS: 1617
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 111
LENGTH: 44
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: Peptide
US-09-657-276-111

Query Match 100.0%; Score 215; DB 20; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44

RESULT 22
US-09-786-639-1
Sequence 1, Application US/09786639
GENERAL INFORMATION:
APPLICANT: Denis Gravel,
APPLICANT: Abdelkrim Habi,
APPLICANT: Paul Brazeau
TITLE OF INVENTION: GRF ANALOGS WITH INCREASED BIOLOGICAL
TITLE OF INVENTION: POTENCY
FILE REFERENCE: 1736/49753
CURRENT APPLICATION NUMBER: US/09/786,639
CURRENT FILING DATE: 2001-06-27
PRIOR APPLICATION NUMBER: PCT/CA99/00816
PRIOR FILING DATE: 1999-09-07
PRIOR APPLICATION NUMBER: US 09/148,982
PRIOR FILING DATE: 1998-09-08
PRIOR APPLICATION NUMBER: US 09/389
PRIOR FILING DATE: 1999-09-03
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 1
LENGTH: 44
TYPE: PRT
ORGANISM: Human GRF
US-09-786-639-1

Query Match 100.0%; Score 215; DB 22; Length 44;
Best Local Similarity 100.0%; Pred. No. 1,4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROQGSNORRGARL 44

RESULT 23
US-10-016-403-8


```
; Sequence 8, Application US/10016403
; GENERAL INFORMATION:
; APPLICANT: Holladay, Leslie A.
; TITLE OF INVENTION: MODIFICATION OF POLYPEPTIDE DRUGS TO
; INCREASE ELECTROTRANSPORT FLUX
; NUMBER OF SEQUENCES: 10
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Stroud, Stroud, Willink, Thompson & Howard
; STREET: 25 West Main Street
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-2236
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Releasee #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/016,403
; FILING DATE: 10-Dec-2001
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/466,610
; FILING DATE: 1995-JUN-06
; ATTORNEY/AGENT INFORMATION:
; NAME: Frenchick, Grady J.
; REGISTRATION NUMBER: 29,018
; REFERENCE/DOCKET NUMBER: 8734.28
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 608-257-2281
; TELEFAX: 608-257-7643
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1..44
; OTHER INFORMATION: /note= "human growth hormone
; releasing hormone"
; FEATURE:
; NAME/KEY: Binding-site
; LOCATION: 44
; OTHER INFORMATION: /note= "carboxy terminal amide"
; SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-10-016-403-8

Query Match          100.0%; Score 215; DB 26; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖRGARRL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖRGARRL 44

RESULT 24
US-10-197-954-77
; Sequence 77, Application US/10197954
; GENERAL INFORMATION:
; APPLICANT: Kester, Hubert
; APPLICANT: Siddiqui, Suhailb
; TITLE OF INVENTION: Capture Compounds, Collections Thereof
; TITLE OF INVENTION: And Methods For Analyzing The Proteome And Complex
; TITLE OF INVENTION: Compositions
; FILE REFERENCE: 24743-2305
; CURRENT APPLICATION NUMBER: US/10/197,954
; CURRENT FILING DATE: 2002-07-16
; PRIOR APPLICATION NUMBER: 60/306,019
; PRIOR FILING DATE: 2001-07-16
```

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; PRIOR APPLICATION NUMBER: 60/314,123
; PRIOR FILING DATE: 2001-08-21
; PRIOR APPLICATION NUMBER: 60/363,433
; PRIOR FILING DATE: 2002-03-11
; NUMBER OF SEQ ID NOS: 149
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 77
; LENGTH: 44
; TYPE: PRT
; ORGANISM: Homo Sapien
US-10-197-954-77

Query Match          100.0%; Score 215; DB 27; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖRGARRL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖRGARRL 44

RESULT 25
US-10-224-640-1
; Sequence 1, Application US/10224640
; GENERAL INFORMATION:
; APPLICANT: Burnier, John P.
; APPLICANT: Clark, Ross G.
; APPLICANT: Elias, Kathleen A.
; APPLICANT: McDowell, Robert S.
; APPLICANT: Rawson, Thomas E.
; APPLICANT: Somers, Todd C.
; APPLICANT: Stanley, Mark S.
; TITLE OF INVENTION: LOW MOLECULAR WEIGHT PEPTIDOMIMETIC GROWTH HORMONE SECRETAGOGUES
; FILE REFERENCE: P0850D2C1
; CURRENT APPLICATION NUMBER: US/10/224,640
; CURRENT FILING DATE: 2002-08-19
; PRIOR APPLICATION NUMBER: US 09/057,074
; PRIOR FILING DATE: 1998-04-08
; PRIOR APPLICATION NUMBER: US 08/340,767
; PRIOR FILING DATE: 1994-11-16
; PRIOR APPLICATION NUMBER: US 09/316,505
; PRIOR FILING DATE: 1999-05-21
; NUMBER OF SEQ ID NOS: 2
; SEQ ID NO 1
; LENGTH: 44
; TYPE: PRT
; ORGANISM: Homosapiens
US-10-224-640-1

Query Match          100.0%; Score 215; DB 28; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖRGARRL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖRGARRL 44

RESULT 26
US-10-360-101-262
; Sequence 262, Application US/10360101
; GENERAL INFORMATION:
; APPLICANT: Moll, Geert N.
; APPLICANT: Leenhout, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 262
```

LENGTH: 44
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: sequence of Semorelin
US-10-360-101-262

Query Match 100.0%; Score 215; DB 29; Length 44;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSROOGESNQGARGARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSROOGESNQGARGARL 44

RESULT 27
US-08-350-530A-31
Sequence 31, Application US/08350530A

GENERAL INFORMATION:
APPLICANT: Patridge, Bruce
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Manning, Shane
APPLICANT: De La Motte, Rebecca
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF PEPTIDE USING RECOMBINANT
TITLE OF INVENTION: FUSION PROTEIN CONSTRUCTS
NUMBER OF SEQUENCES: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/350.530A
FILING DATE: 07-DEC-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:

ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.45US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612/332-9081
TELEFAX: 612/332-9081
TELEX:
INFORMATION FOR SEQ ID NO: 31:

SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHEICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
US-08-350-530A-31

Query Match 100.0%; Score 215; DB 7; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSROOGESNQGARGARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSROOGESNQGARGARL 44

RESULT 28
US-08-520-485-17
Sequence 17, Application US/08520485

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Patridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520.485
FILING DATE: 29-AUG-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu-Ala
US-08-520-485-17

Query Match 100.0%; Score 215; DB 9; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSROOGESNQGARGARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSROOGESNQGARGARL 44

RESULT 29
US-08-520-485-21
Sequence 21, Application US/08520485

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Patridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center

Query Match 100.0%; Score 215; DB 9; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,485
FILING DATE: 29-AUG-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)-Gly
US-08-520-485-21

Query Match 100.0%; Score 215; DB 9; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 30
US-08-520-485-26
Sequence 26, Application US/08520485
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Parridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSER: Merchant & Gould
STREET: 3100 Northwest Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/520,485
FILING DATE: 29-AUG-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44) Ala-Arg-Leu-Gly
US-08-520-485-26

Query Match 100.0%; Score 215; DB 9; Length 45;
Best Local Similarity 100.0%; Pred. No. 1.4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 31
US-08-680-004-15
Sequence 15, Application US/08680004
GENERAL INFORMATION:
APPLICANT: Coolidge, Thomas
APPLICANT: Wagner, Fred
APPLICANT: ven Heeke, Gino
APPLICANT: Schuster, Sheldon
APPLICANT: Stout, Jay
APPLICANT: Wylie, Dwane
TITLE OF INVENTION: PURIFICATION DIRECTED CLOSING OF PEPTIDES
NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSER: Merchant & Gould
STREET: 3100 Northwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastrSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/680,004
FILING DATE: 15-JUL-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/552,810
FILING DATE: 16-JUL-1990
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.2US01
TELEPHONE: 612/332-5300
TELEFAX: 612/332-9081
TELEX:
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 46 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
US-08-680-004-15

Query Match 100.0%; Score 215; DB 10; Length 46;
Best Local Similarity 100.0%; Pred. No. 1.5e-22;

CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/350.528
FILING DATE: 07-DEC-1994
CLASSIFICATION: 435
PRIORITY APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 58:
SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
US-08-350-528-58

Query Match 100.0%; Score 215; DB 7; Length 49;
Best Local Similarity 100.0%; Pred. No. 1.6e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROGESNQGARGARL 44
Db 6 YADAIPTNSYRKVLGQLSARLKLQDIMSROGESNQGARGARL 49

RESULT 35
US-08-934-171-58
Sequence 58, Application US/08934171
GENERAL INFORMATION:
APPLICANT: Stout, Jay
APPLICANT: Partridge, Bruce
APPLICANT: Henriksen, Dennis
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED
TITLE OF INVENTION: PEPTIDES FROM RECOMBINANT PROTEIN CS
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS:
ADDRESSER: Merchant & Gould
STREET: 3100 Norwest
CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/934.171
FILING DATE:

CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350.528
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 58:
SEQUENCE CHARACTERISTICS:
LENGTH: 49 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
US-08-934-171-58

Query Match 100.0%; Score 215; DB 13; Length 49;
Best Local Similarity 100.0%; Pred. No. 1.6e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROGESNQGARGARL 44
Db 6 YADAIPTNSYRKVLGQLSARLKLQDIMSROGESNQGARGARL 49

RESULT 36
US-09-341-590-88
Sequence 88, Application US/09341590
GENERAL INFORMATION:
APPLICANT: Larsen, Bjarne Due
TITLE OF INVENTION: PHARMACOLOGICALLY ACTIVE PEPTIDE CONJUGATES HAVING A
TITLE OF INVENTION: REDUCED TENDENCY TOWARDS ENZYMATIC HYDROLYSIS
FILE REFERENCE: PPT-20479-US
CURRENT APPLICATION NUMBER: US/09/341.590
CURRENT FILING DATE: 1999-07-03
PRIOR APPLICATION NUMBER: DK 0317/98
PRIOR FILING DATE: 1998-03-09
NUMBER OF SEQ ID NOS: 121
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 88
LENGTH: 50
TYPE: PPT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: GHRH (1-44)-Ly86
US-09-341-590-88

Query Match 100.0%; Score 215; DB 17; Length 50;
Best Local Similarity 100.0%; Pred. No. 1.7e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROGESNQGARGARL 44
Db 1 YADAIPTNSYRKVLGQLSARLKLQDIMSROGESNQGARGARL 44

RESULT 37
US-09-341-590-89
Sequence 89, Application US/09341590
GENERAL INFORMATION:
APPLICANT: Larsen, Bjarne Due
TITLE OF INVENTION: PHARMACOLOGICALLY ACTIVE PEPTIDE CONJUGATES HAVING A
TITLE OF INVENTION: REDUCED TENDENCY TOWARDS ENZYMATIC HYDROLYSIS
FILE REFERENCE: PPT-20479-US

CURRENT APPLICATION NUMBER: US/09/341,590
CURRENT FILING DATE: 1999-07-03
PRIOR APPLICATION NUMBER: DK 0317/98
PRIOR FILING DATE: 1998-03-09
NUMBER OF SEQ ID NOS: 121
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO: 89
LENGTH: 50
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: GHRH (1-44)-GIue
US-09-341-590-89

Query Match
Best Local Similarity 100.0%; Score 215; DB 17; Length 50;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 38
US-08-350-528-6
Sequence 6, Application US/08350528
GENERAL INFORMATION:
APPLICANT: Scout, Jay
APPLICANT: Partridge, Bruce
APPLICANT: Henriksen, Dennis
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED PEPTIDES FROM RECOMB
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Norwest
CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/350,528
FILING DATE: 07-DEC-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 69 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: C-terminal
ORIGINAL SOURCE:
US-08-350-528-6

Query Match
Best Local Similarity 100.0%; Score 215; DB 7; Length 69;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 21 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 64

RESULT 39
US-08-934-171-6
Sequence 6, Application US/08934171
GENERAL INFORMATION:
APPLICANT: Scout, Jay
APPLICANT: Partridge, Bruce
APPLICANT: Henriksen, Dennis
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Norwest
CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/934,171
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350,528
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 69 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: C-terminal
ORIGINAL SOURCE:
US-08-934-171-6

Query Match
Best Local Similarity 100.0%; Score 215; DB 13; Length 69;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 21 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 64

RESULT 40
PCT-US03-16643-122

```
/ Sequence 122, Application PC/TUS0316643
/ GENERAL INFORMATION:
/ APPLICANT: Wagner, F.
/ APPLICANT: Peng, L.
/ APPLICANT: Xia, U.
/ APPLICANT: Holmquist, B.
/ TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypept
/ FILE REFERENCE: 1627.010W01
/ CURRENT APPLICATION NUMBER: PCT/US03/16643
/ CURRENT FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,370
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 148
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 122
/ LENGTH: 76
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Sequence for the T7tag-GRF(1-44)A cassette.
PCT-US03-16643-122

Query Match          100.0%; Score 215; DB 1; Length 76;
Best Local Similarity 100.0%; Pred. No. 2.9e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 32 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 75

RESULT 41
PCT-US03-16643-124
/ Sequence 124, Application PC/TUS0316643
/ GENERAL INFORMATION:
/ APPLICANT: Wagner, F.
/ APPLICANT: Peng, L.
/ APPLICANT: Xia, U.
/ APPLICANT: Holmquist, B.
/ TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypept
/ FILE REFERENCE: 1627.010W01
/ CURRENT APPLICATION NUMBER: PCT/US03/16643
/ CURRENT FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,370
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 148
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 124
/ LENGTH: 99
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Sequence for the T7tagVg-GRF(1-44)A cassette.
PCT-US03-16643-124

Query Match          100.0%; Score 215; DB 1; Length 99;
Best Local Similarity 100.0%; Pred. No. 4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 55 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 98

RESULT 42
PCT-US03-16645-78
/ Sequence 78, Application PC/TUS0316645
/ GENERAL INFORMATION:
/ APPLICANT: Wagner, F.
/ APPLICANT: Peng, L.
/ APPLICANT: Xia, U.
/ APPLICANT: Holmquist, B.
/ TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypept
```

```
/ FILE REFERENCE: 1627.009W01
/ CURRENT APPLICATION NUMBER: PCT/US03/16645
/ CURRENT FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,212
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 93
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 78
/ LENGTH: 99
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: pBN121-T7tagPh-CH-GRF(1-44)CH.
PCT-US03-16645-78

Query Match          100.0%; Score 215; DB 1; Length 99;
Best Local Similarity 100.0%; Pred. No. 4e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 54 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 97

RESULT 43
PCT-US03-16643-120
/ Sequence 120, Application PC/TUS0316643
/ GENERAL INFORMATION:
/ APPLICANT: Wagner, F.
/ APPLICANT: Peng, L.
/ APPLICANT: Xia, U.
/ APPLICANT: Holmquist, B.
/ TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypept
/ FILE REFERENCE: 1627.010W01
/ CURRENT APPLICATION NUMBER: PCT/US03/16643
/ CURRENT FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,370
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 148
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 120
/ LENGTH: 101
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Sequence for the T7tagVgCH-GRF(1-44)A cassette.
PCT-US03-16643-120

Query Match          100.0%; Score 215; DB 1; Length 101;
Best Local Similarity 100.0%; Pred. No. 4.1e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 44
Db 57 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNOERGARL 100

RESULT 44
PCT-US03-16647-2
/ Sequence 2, Application PC/TUS0316647
/ GENERAL INFORMATION:
/ APPLICANT: Holmquist, B.
/ APPLICANT: Stridom, D.
/ APPLICANT: Gensalk, X.
/ APPLICANT: Cleyer, R.
/ TITLE OF INVENTION: POLYPEPTIDE CLEAVAGE PROCESS
/ FILE REFERENCE: 1627.011W01
/ CURRENT APPLICATION NUMBER: PCT/US03/16647
/ CURRENT FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,484
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 9
/ SOFTWARE: FastSeq for Windows Version 4.0
```

```
SEQ ID NO 2
LENGTH: 101
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Amino acid sequence of a chimeric protein.
PCT-US03-16647-2
```

```
Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 101;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy
1 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 44
57 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 100
```

```
RESULT 45
PCT-US03-16647-9
Sequence 9, Application PC/TUS0316647
```

```
GENERAL INFORMATION:
APPLICANT: Holmquist, B
APPLICANT: Strydom, D.
APPLICANT: Gensalk, X.
APPLICANT: Cleyer, R.
```

```
TITLE OF INVENTION: POLYPEPTIDE CLEAVAGE PROCESS
```

```
FILE REFERENCE: 1627.011WO1
```

```
CURRENT APPLICATION NUMBER: PCT/US03/16647
```

```
CURRENT FILING DATE: 2003-05-23
```

```
PRIOR APPLICATION NUMBER: US 60/383,484
```

```
PRIOR FILING DATE: 2002-05-24
```

```
NUMBER OF SEQ ID NOS: 9
```

```
SOFTWARE: FastSeq for Windows Version 4.0
```

```
SEQ ID NO 9
```

```
LENGTH: 101
```

```
TYPE: PRT
```

```
ORGANISM: Artificial Sequence
```

```
FEATURE:
```

```
OTHER INFORMATION: Amino acid sequence of a chimeric protein.
```

```
NAME/KEY: SITE
```

```
LOCATION: 101
```

```
OTHER INFORMATION: Xaa = any amino acid.
```

```
PCT-US03-16647-9
```

```
Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 101;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy
1 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 44
57 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 100
```

```
RESULT 46
PCT-US03-16647-6
Sequence 6, Application PC/TUS0316647
```

```
GENERAL INFORMATION:
```

```
APPLICANT: Holmquist, B
```

```
APPLICANT: Strydom, D.
```

```
APPLICANT: Gensalk, X.
```

```
APPLICANT: Cleyer, R.
```

```
TITLE OF INVENTION: POLYPEPTIDE CLEAVAGE PROCESS
```

```
FILE REFERENCE: 1627.011WO1
```

```
CURRENT APPLICATION NUMBER: PCT/US03/16647
```

```
CURRENT FILING DATE: 2003-05-23
```

```
PRIOR APPLICATION NUMBER: US 60/383,484
```

```
PRIOR FILING DATE: 2002-05-24
```

```
NUMBER OF SEQ ID NOS: 9
```

```
SOFTWARE: FastSeq for Windows Version 4.0
```

```
SEQ ID NO 6
```

```
LENGTH: 102
```

```
TYPE: PRT
```

```
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Amino acid sequence of a chimeric protein.
PCT-US03-16647-6
```

```
Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 102;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy
1 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 44
57 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 100
```

```
RESULT 47
PCT-US03-16643-126
Sequence 126, Application PC/TUS0316643
```

```
GENERAL INFORMATION:
```

```
APPLICANT: Wagner, F.
```

```
APPLICANT: Peng, L.
```

```
APPLICANT: Xia, U.
```

```
APPLICANT: Holmquist, B.
```

```
TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypeptide
```

```
FILE REFERENCE: 1627.010WO1
```

```
CURRENT APPLICATION NUMBER: PCT/US03/16643
```

```
CURRENT FILING DATE: 2003-05-23
```

```
PRIOR APPLICATION NUMBER: US 60/383,370
```

```
PRIOR FILING DATE: 2002-05-24
```

```
NUMBER OF SEQ ID NOS: 148
```

```
SOFTWARE: FastSeq for Windows Version 4.0
```

```
SEQ ID NO 126
```

```
LENGTH: 103
```

```
TYPE: PRT
```

```
ORGANISM: Artificial Sequence
```

```
FEATURE:
```

```
OTHER INFORMATION: Sequence for the T7tagVg(opt)-CH-GRE(1-44)A
```

```
OTHER INFORMATION: cassette.
```

```
PCT-US03-16643-126
```

```
Query Match
Best Local Similarity 100.0%; Score 215; DB 1; Length 103;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy
1 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 44
57 YADAIPTNSYRKVLGQLSARKLLDIDMSRQGESNDEGARGARL 100
```

```
RESULT 48
```

```
PCT-US03-16643-128
Sequence 128, Application PC/TUS0316643
```

```
GENERAL INFORMATION:
```

```
APPLICANT: Wagner, F.
```

```
APPLICANT: Peng, L.
```

```
APPLICANT: Xia, U.
```

```
APPLICANT: Holmquist, B.
```

```
TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypeptide
```

```
FILE REFERENCE: 1627.010WO1
```

```
CURRENT APPLICATION NUMBER: PCT/US03/16643
```

```
CURRENT FILING DATE: 2003-05-23
```

```
PRIOR APPLICATION NUMBER: US 60/383,370
```

```
PRIOR FILING DATE: 2002-05-24
```

```
NUMBER OF SEQ ID NOS: 148
```

```
SOFTWARE: FastSeq for Windows Version 4.0
```

```
SEQ ID NO 128
```

```
LENGTH: 103
```

```
TYPE: PRT
```

```
ORGANISM: Artificial Sequence
```

```
FEATURE:
```

```
OTHER INFORMATION: Sequence for the T7tagVgmut1CH-GRE(1-44)A
```

```
OTHER INFORMATION: cassette.
```

```
PCT-US03-16643-128
```


Query Match 100.0%; Score 215; DB 1; Length 103;
Best Local Similarity 100.0%; Pred. No. 4,3e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNQRGAPARL 44
Db 57 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNQRGAPARL 100

RESULT 49

PCT-US03-16643-130
; Sequence 130, Application PC/TUS0316643
; GENERAL INFORMATION:
; APPLICANT: Wagner, F.
; APPLICANT: Peng, L.
; APPLICANT: Xie, U.
; APPLICANT: Holmquist, B.
; TITLE OF INVENTION: Methods and DNA Constructs for High Yield Production of Polypept
; FILE REFERENCE: 1627.010M01
; CURRENT APPLICATION NUMBER: PCT/US03/16643
; PRIOR FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,370
; NUMBER OF SEQ ID NOS: 148
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 130
; LENGTH: 103
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Sequence for the T7tagyMuc4CH-GRF(1-44)A
; FEATURE:
; OTHER INFORMATION: cassette.
; NAME/KEY: SITE
; LOCATION: 23
; OTHER INFORMATION: Xaa = Thr or Pro or Ala or Ser.
; NAME/KEY: SITE
; LOCATION: 28
; OTHER INFORMATION: Xaa = Lys or Gln.
PCT-US03-16643-130

Query Match 100.0%; Score 215; DB 1; Length 103;
Best Local Similarity 100.0%; Pred. No. 4,3e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNQRGAPARL 44
Db 57 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNQRGAPARL 100

RESULT 50

PCT-US02-40891-454
; Sequence 454, Application PC/TUS0240891
; GENERAL INFORMATION:
; APPLICANT: Human Genome Sciences, Inc.
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: P564PCT
; CURRENT APPLICATION NUMBER: PCT/US02/40891
; CURRENT FILING DATE: 2002-12-23
; PRIOR APPLICATION NUMBER: 60/341,811
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/360,000
; PRIOR FILING DATE: 2002-02-28
; PRIOR APPLICATION NUMBER: 60/378,950
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: 60/398,008
; PRIOR FILING DATE: 2002-07-24
; PRIOR APPLICATION NUMBER: 60/411,355
; PRIOR FILING DATE: 2002-09-18
; PRIOR APPLICATION NUMBER: 60/414,984
; PRIOR FILING DATE: 2002-10-02
; PRIOR APPLICATION NUMBER: 60/417,611

; PRIOR FILING DATE: 2002-10-11
; PRIOR APPLICATION NUMBER: 60/420,246
; PRIOR FILING DATE: 2002-10-23
; PRIOR APPLICATION NUMBER: 60/423,623
; PRIOR FILING DATE: 2002-11-05
; PRIOR APPLICATION NUMBER: 60/351,360
; PRIOR FILING DATE: 2002-01-28
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 2232
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 454
; LENGTH: 108
; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US02-40891-454

Query Match 100.0%; Score 215; DB 1; Length 108;
Best Local Similarity 100.0%; Pred. No. 4,5e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 51

US-10-147-087-2
; Sequence 2, Application US/10147087
; GENERAL INFORMATION:
; APPLICANT: IKUSHIMA, Hideto
; TITLE OF INVENTION: Novel Anti-Autoimmune Composition By Inhibition of GRF Action
; FILE REFERENCE: 0950-011P
; CURRENT APPLICATION NUMBER: US/10/147,087
; CURRENT FILING DATE: 2002-05-17
; PRIOR APPLICATION NUMBER: JP 2001-148607
; PRIOR FILING DATE: 2001-05-18
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 108
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-147-087-2

Query Match 100.0%; Score 215; DB 27; Length 108;
Best Local Similarity 100.0%; Pred. No. 4,5e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNQRGAPARL 44
Db 32 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNQRGAPARL 75

RESULT 52

US-08-350-528-8
; Sequence 8, Application US/08350528
; GENERAL INFORMATION:
; APPLICANT: Stout, Jay
; APPLICANT: Partridge, Bruce
; APPLICANT: Henriksen, Dennis
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred
; TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED PEPTIDES FROM RECOMB
; NUMBER OF SEQUENCES: 63
; CORRESPONDENCE ADDRESS:
; ADDRESS: Merchant & Gould
; STREET: 3100 Norwest
; CITY: Mpls
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/350,528
FILING DATE: 07-DEC-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 122 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: C-terminal
ORIGINAL SOURCE:
US-08-350-528-8

Query Match 100.0%; Score 215; DB 7; Length 122;
Best Local Similarity 100.0%; Pred. No. 5.3e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVYGQLSARKLLDIMSROOGESNQRGARARL 44
Db 21 YADAIFTNSYRKVYGQLSARKLLDIMSROOGESNQRGARARL 64

RESULT 53
US-08-934-171-8
Sequence 8, Application US/08934171
GENERAL INFORMATION:
APPLICANT: Stouffe, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Holmquist, Barton
APPLICANT: Wagner, Fred
TITLE OF INVENTION: PRODUCTION OF C-TERMINAL AMIDATED
TITLE OF INVENTION: PEPTIDES FROM RECOMBINANT PROTEIN CS
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Norwest
CITY: Mpls
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/934,171
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/350,528
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G

REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.43US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 332-5300
TELEFAX:
TELEX:
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 122 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: C-terminal
ORIGINAL SOURCE:
US-08-934-171-8

Query Match 100.0%; Score 215; DB 13; Length 122;
Best Local Similarity 100.0%; Pred. No. 5.3e-22;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVYGQLSARKLLDIMSROOGESNQRGARARL 44
Db 21 YADAIFTNSYRKVYGQLSARKLLDIMSROOGESNQRGARARL 64

RESULT 54
PCT-US02-40891-238
Sequence 238, Application PC/TUS0240891
GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PFS64PCT
CURRENT APPLICATION NUMBER: PCT/US02/40891
PRIOR FILING DATE: 2002-12-23
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/360,000
PRIOR FILING DATE: 2002-02-28
PRIOR APPLICATION NUMBER: 60/378,950
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/398,008
PRIOR FILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR FILING DATE: 2002-09-18
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR FILING DATE: 2002-10-02
PRIOR APPLICATION NUMBER: 60/417,611
PRIOR FILING DATE: 2002-10-11
PRIOR APPLICATION NUMBER: 60/420,246
PRIOR FILING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60/423,623
PRIOR FILING DATE: 2002-11-05
PRIOR APPLICATION NUMBER: 60/351,360
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 222
PCT-US02-40891-238
SRQ ID NO 238
SOFTWARE: PatentIn Ver. 2.0
LENGTH: 653
TYPE: PRT
ORGANISM: Homo sapiens

Query Match 100.0%; Score 215; DB 1; Length 653;
Best Local Similarity 100.0%; Pred. No. 4.8e-21;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

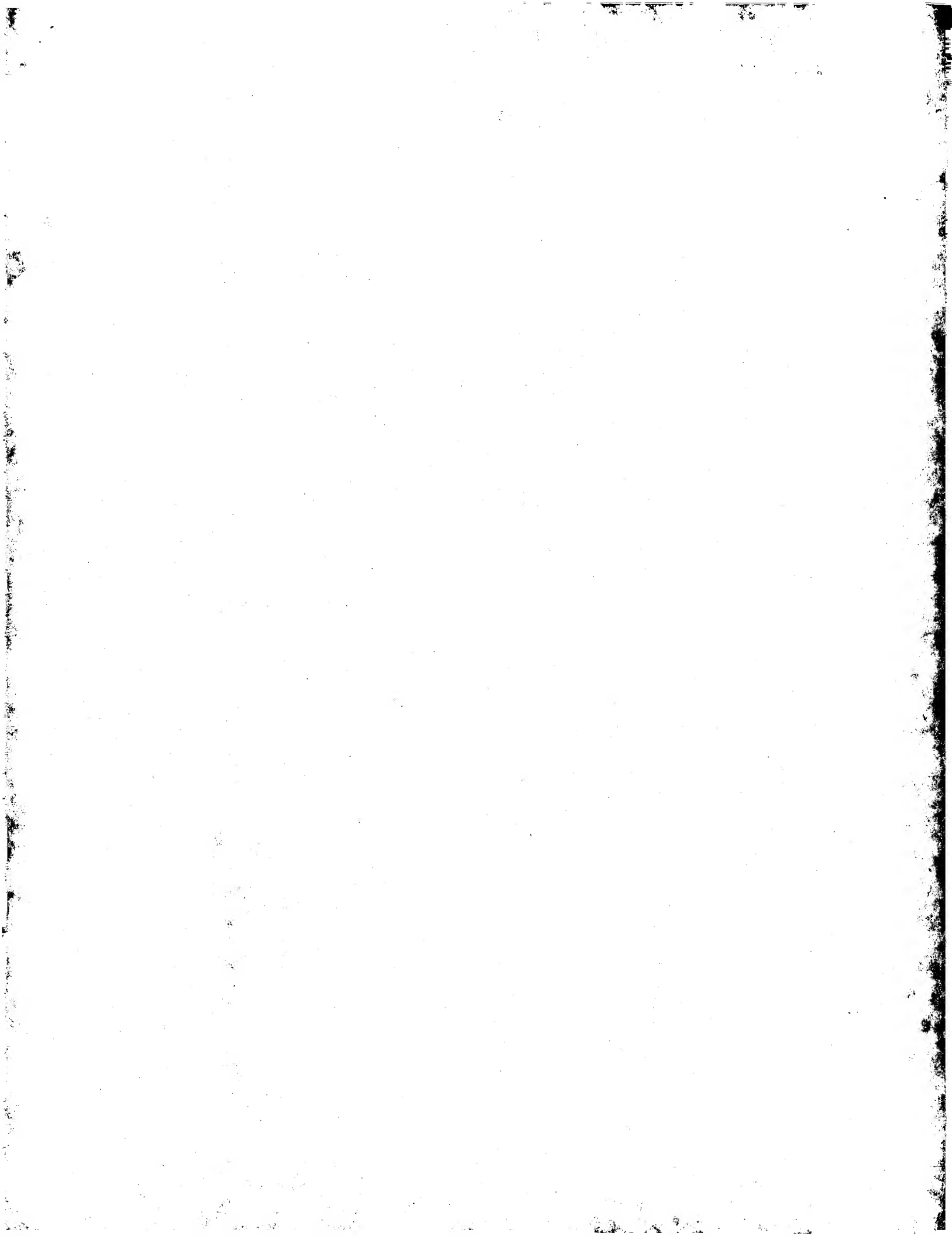
Qy 1 YADAIFTNSYRKVYGQLSARKLLDIMSROOGESNQRGARARL 44
Db 610 YADAIFTNSYRKVYGQLSARKLLDIMSROOGESNQRGARARL 653

```
RESULT 55
PCT-US02-40891-239
; Sequence 239, Application PC/TUS0240891
; GENERAL INFORMATION:
; APPLICANT: Human Genome Sciences, Inc.
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: PF564PCT
; CURRENT APPLICATION NUMBER: PCT/US02/40891
; CURRENT FILING DATE: 2002-12-23
; PRIOR APPLICATION NUMBER: 60/341,811
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/360,000
; PRIOR FILING DATE: 2002-02-28
; PRIOR APPLICATION NUMBER: 60/378,950
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: 60/398,008
; PRIOR FILING DATE: 2002-07-24
; PRIOR APPLICATION NUMBER: 60/411,355
; PRIOR FILING DATE: 2002-09-18
; PRIOR APPLICATION NUMBER: 60/414,984
; PRIOR FILING DATE: 2002-10-02
; PRIOR APPLICATION NUMBER: 60/417,611
; PRIOR FILING DATE: 2002-10-11
; PRIOR APPLICATION NUMBER: 60/420,246
; PRIOR FILING DATE: 2002-10-23
; PRIOR APPLICATION NUMBER: 60/423,623
; PRIOR FILING DATE: 2002-11-05
; PRIOR APPLICATION NUMBER: 60/351,360
; PRIOR FILING DATE: 2002-01-28
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 2222
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 239
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US02-40891-239

Query Match          100.0%; Score 215; DB 1; Length 653;
Best Local Similarity 100.0%; Pred. No. 4,86-21;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 YADALFTSYRKVLGOLSRKLLDIDMSRQGESNQGARGARL 44
        |||
        25 YADALFTSYRKVLGOLSRKLLDIDMSRQGESNQGARGARL 68
```

Search completed: February 11, 2004, 11:55:12
Job time : 172 secs




```

; APPLICANT: Subramaniam Marappan
; APPLICANT: Chester Frederick Hassman III
; APPLICANT: Ping Yip
; TITLE OF INVENTION: Capture Compounds, Collections Thereof
; TITLE OF INVENTION: And Methods For Analyzing The Proteome And Complex
; FILE REFERENCE: 24743-2309
; CURRENT APPLICATION NUMBER: US/10/760,085
; CURRENT FILING DATE: 2004-01-16
; PRIOR APPLICATION NUMBER: 60/441,398
; PRIOR FILING DATE: 2003-01-16
; NUMBER OF SEQ ID NOS: 149
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 77
; LENGTH: 44
; TYPE: PRT
; ORGANISM: Homo Sapien
; US-10-760-085-77

Query Match          100.0%; Score 215; DB 6; Length 44;
Best Local Similarity 100.0%; Pred. No. 3,66-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 3
PCT-US03-16644A-21
; Sequence 21, Application PC/TUS0316644A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Cryer, Kirk E.
; APPLICANT: Strydom, Daniel
; APPLICANT: Seo, Jin Seog
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred. W.
; TITLE OF INVENTION: Peptide Derivatization Process
; FILE REFERENCE: 1627.016M01
; CURRENT APPLICATION NUMBER: PCT/US03/16644A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,364
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 21
; LENGTH: 48
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic leader polypeptide
PCT-US03-16644A-21

Query Match          100.0%; Score 215; DB 1; Length 48;
Best Local Similarity 100.0%; Pred. No. 3,9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 3 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 46

RESULT 4
PCT-US03-16648A-26
; Sequence 26, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; US-10-760-085-77
```

```

; FILE REFERENCE: 1627.012M01
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 26
; LENGTH: 49
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-26

Query Match          100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3,9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 5
PCT-US03-16648A-27
; Sequence 27, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012M01
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 27
; LENGTH: 49
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-27

Query Match          100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3,9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

RESULT 6
PCT-US03-16648A-28
; Sequence 28, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012M01
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
```

```
/ NUMBER OF SEQ ID NOS: 43
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 28
/ LENGTH: 49
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-28

Query Match          100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44

RESULT 7
PCT-US03-16648A-29
/ Sequence 29, Application PC/TUS0316648A
/ GENERAL INFORMATION:
/ APPLICANT: Restoragen Inc.
/ APPLICANT: Holmquist, Barton
/ APPLICANT: Strydom, Daniel
/ APPLICANT: Gensalk, X.
/ APPLICANT: Cryer, R.
/ TITLE OF INVENTION: Peptide Amidation Process
/ FILE REFERENCE: 1627.012WO1
/ CURRENT APPLICATION NUMBER: PCT/US03/16648A
/ PRIOR FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,362
/ NUMBER OF SEQ ID NOS: 43
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 29
/ LENGTH: 49
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-29

Query Match          100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44

RESULT 8
PCT-US03-16648A-30
/ Sequence 30, Application PC/TUS0316648A
/ GENERAL INFORMATION:
/ APPLICANT: Restoragen Inc.
/ APPLICANT: Holmquist, Barton
/ APPLICANT: Strydom, Daniel
/ APPLICANT: Gensalk, X.
/ APPLICANT: Cryer, R.
/ TITLE OF INVENTION: Peptide Amidation Process
/ FILE REFERENCE: 1627.012WO1
/ CURRENT APPLICATION NUMBER: PCT/US03/16648A
/ PRIOR FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,362
/ NUMBER OF SEQ ID NOS: 43
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 30
/ LENGTH: 49
/ TYPE: PRT
```

```
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-30

Query Match          100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44

RESULT 9
PCT-US03-16648A-31
/ Sequence 31, Application PC/TUS0316648A
/ GENERAL INFORMATION:
/ APPLICANT: Restoragen Inc.
/ APPLICANT: Holmquist, Barton
/ APPLICANT: Strydom, Daniel
/ APPLICANT: Gensalk, X.
/ APPLICANT: Cryer, R.
/ TITLE OF INVENTION: Peptide Amidation Process
/ FILE REFERENCE: 1627.012WO1
/ CURRENT APPLICATION NUMBER: PCT/US03/16648A
/ PRIOR FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,362
/ NUMBER OF SEQ ID NOS: 43
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 31
/ LENGTH: 49
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-31

Query Match          100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNOERGARL 44

RESULT 10
PCT-US03-16648A-32
/ Sequence 32, Application PC/TUS0316648A
/ GENERAL INFORMATION:
/ APPLICANT: Restoragen Inc.
/ APPLICANT: Holmquist, Barton
/ APPLICANT: Strydom, Daniel
/ APPLICANT: Gensalk, X.
/ APPLICANT: Cryer, R.
/ TITLE OF INVENTION: Peptide Amidation Process
/ FILE REFERENCE: 1627.012WO1
/ CURRENT APPLICATION NUMBER: PCT/US03/16648A
/ PRIOR FILING DATE: 2003-05-23
/ PRIOR APPLICATION NUMBER: US 60/383,362
/ NUMBER OF SEQ ID NOS: 43
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 32
/ LENGTH: 49
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: A synthetic precursor protein
PCT-US03-16648A-32
```

Query Match 100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44

RESULT 11

PCT-US03-16648A-35
; Sequence 35, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Ciyer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012M01
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; PRIOR FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/363,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 35
; LENGTH: 49
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic peptide
; NAME/KEY: SITE
; LOCATION: 45
; OTHER INFORMATION: Xaa = J; the single letter code for dehydroalanine
PCT-US03-16648A-35

Query Match 100.0%; Score 215; DB 1; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44

RESULT 12

US-09-341-590A-88
; Sequence 88, Application US/09341590A
; GENERAL INFORMATION:
; APPLICANT: LARSEN, BJARNE DUE
; TITLE OF INVENTION: PHARMACOLOGICALLY ACTIVE PEPTIDE CONJUGATES HAVING A
; TITLE OF INVENTION: REDUCED TENDENCY TOWARDS ENZYMATIC HYDROLYSIS
; FILE REFERENCE: 55508(45487)
; CURRENT APPLICATION NUMBER: US/09/341,590A
; CURRENT FILING DATE: 1999-07-12
; PRIOR APPLICATION NUMBER: DK 0317/98
; PRIOR FILING DATE: 1998-03-09
; NUMBER OF SEQ ID NOS: 122
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 88
; LENGTH: 50
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: GHRH (1-44)-Lys6
US-09-341-590A-88

Query Match 100.0%; Score 215; DB 5; Length 50;
Best Local Similarity 100.0%; Pred. No. 4e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44

RESULT 13

US-09-341-590A-89
; Sequence 89, Application US/09341590A
; GENERAL INFORMATION:
; APPLICANT: LARSEN, BJARNE DUE
; TITLE OF INVENTION: PHARMACOLOGICALLY ACTIVE PEPTIDE CONJUGATES HAVING A
; TITLE OF INVENTION: REDUCED TENDENCY TOWARDS ENZYMATIC HYDROLYSIS
; FILE REFERENCE: 55508(45487)
; CURRENT APPLICATION NUMBER: US/09/341,590A
; CURRENT FILING DATE: 1999-07-12
; PRIOR APPLICATION NUMBER: DK 0317/98
; PRIOR FILING DATE: 1998-03-09
; NUMBER OF SEQ ID NOS: 122
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 89
; LENGTH: 50
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: GHRH (1-44)-Glu6
US-09-341-590A-89

Query Match 100.0%; Score 215; DB 5; Length 50;
Best Local Similarity 100.0%; Pred. No. 4e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44

RESULT 14

US-10-449-831A-226
; Sequence 226, Application US/10449831A
; GENERAL INFORMATION:
; APPLICANT: Koentgen, Frank
; TITLE OF INVENTION: Higher molecular weight entities and uses therefor
; FILE REFERENCE: 2385978
; CURRENT APPLICATION NUMBER: US/10/449,831A
; CURRENT FILING DATE: 2003-05-30
; PRIOR APPLICATION NUMBER: USSN 60/384878
; PRIOR FILING DATE: 2002-05-31
; NUMBER OF SEQ ID NOS: 237
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 226
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Human GHRH chimeric peptide II
US-10-449-831A-226

Query Match 100.0%; Score 215; DB 6; Length 70;
Best Local Similarity 100.0%; Pred. No. 5.1e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQOGESNÖRGARRL 44

RESULT 15

PCT-US03-16644A-20
; Sequence 20, Application PC/TUS0316644A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Ciyer, Kirk E.
; APPLICANT: Strydom, Daniel


```

; APPLICANT: Seo, Jin Seog
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred. W.
; TITLE OF INVENTION: Peptide Derivatization Process
; FILE REFERENCE: 1627.016WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16644A
; PRIOR FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,364
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 20
; LENGTH: 94
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic peptide
PCT-US03-16644A-20
```

```

Query Match          100.0%; Score 215; DB 1; Length 94;
Best Local Similarity 100.0%; Pred. No. 6.4e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```

RESULT 16
PCT-US03-16648A-25
; Sequence 25, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 25
; LENGTH: 95
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
; NAME/KEY: SITE
; LOCATION: 94
; OTHER INFORMATION: Xaa = any amino acid
; NAME/KEY: SITE
; LOCATION: 95
; OTHER INFORMATION: Xaa = Cys, His, or Met
PCT-US03-16648A-25
```

```

Query Match          100.0%; Score 215; DB 1; Length 95;
Best Local Similarity 100.0%; Pred. No. 6.4e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```

RESULT 17
PCT-US03-16648A-11
; Sequence 11, Application PC/TUS0316648A
```

```

; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 97
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-11
```

```

Query Match          100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```

RESULT 18
PCT-US03-16648A-18
; Sequence 18, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 18
; LENGTH: 97
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-18
```

```

Query Match          100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

Qy 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```

RESULT 19
PCT-US03-16648A-19
; Sequence 19, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
```

```
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 97
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-19
```

```
Query Match          100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```
RESULT 20
PCT-US03-16648A-20
; Sequence 20, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 20
; LENGTH: 97
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-20
```

```
Query Match          100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```
RESULT 21
PCT-US03-16648A-21
; Sequence 21, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
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; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 21
; LENGTH: 97
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-21
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Query Match          100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

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RESULT 22
PCT-US03-16648A-22
; Sequence 22, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 22
; LENGTH: 97
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-22
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Query Match          100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```
QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
Db 49 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92
```

```
RESULT 23
PCT-US03-16648A-23
; Sequence 23, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012WO1
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; CURRENT FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 23
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LENGTH: 97
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-23

Query Match 100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92

RESULT 24
PCT-US03-16648A-40
Sequence 40, Application PC/TUS0316648A
GENERAL INFORMATION:
APPLICANT: Restoragen Inc.
APPLICANT: Holmquist, Barton
APPLICANT: Strydom, Daniel
APPLICANT: Genesalk, X.
APPLICANT: Cryer, R.
TITLE OF INVENTION: Peptide Amidation Process
FILE REFERENCE: 1627.012M01
CURRENT APPLICATION NUMBER: PCT/US03/16648A
CURRENT FILING DATE: 2003-05-23
PRIOR APPLICATION NUMBER: US 60/383,362
NUMBER OF SEQ ID NOS: 43
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 40
LENGTH: 97
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: A synthetic chimeric protein
PCT-US03-16648A-40

Query Match 100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92

RESULT 25
PCT-US03-16648A-41
Sequence 41, Application PC/TUS0316648A
GENERAL INFORMATION:
APPLICANT: Restoragen Inc.
APPLICANT: Holmquist, Barton
APPLICANT: Strydom, Daniel
APPLICANT: Genesalk, X.
APPLICANT: Cryer, R.
TITLE OF INVENTION: Peptide Amidation Process
FILE REFERENCE: 1627.012M01
CURRENT APPLICATION NUMBER: PCT/US03/16648A
CURRENT FILING DATE: 2003-05-23
PRIOR APPLICATION NUMBER: US 60/383,362
NUMBER OF SEQ ID NOS: 43
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 41
LENGTH: 97
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: A synthetic chimeric protein

PCT-US03-16648A-41

Query Match 100.0%; Score 215; DB 1; Length 97;
Best Local Similarity 100.0%; Pred. No. 6.5e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 49 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 92

RESULT 26
PCT-US03-16468A-15
Sequence 15, Application PC/TUS0316468A
GENERAL INFORMATION:
APPLICANT: Restoragen Inc.
APPLICANT: Seo, Jin Seog
APPLICANT: Strydom, Daniel
APPLICANT: Holmquist, Barton
TITLE OF INVENTION: Polypeptide Cleavage Process
FILE REFERENCE: 1627.026M01
CURRENT APPLICATION NUMBER: PCT/US03/16468A
CURRENT FILING DATE: 2003-05-23
PRIOR APPLICATION NUMBER: US 60/383,488
NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 15
LENGTH: 101
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Artificial Construct
PCT-US03-16468A-15

Query Match 100.0%; Score 215; DB 1; Length 101;
Best Local Similarity 100.0%; Pred. No. 6.7e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44
DB 57 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 100

RESULT 27
PCT-US03-16468A-17
Sequence 17, Application PC/TUS0316468A
GENERAL INFORMATION:
APPLICANT: Restoragen Inc.
APPLICANT: Seo, Jin Seog
APPLICANT: Strydom, Daniel
APPLICANT: Holmquist, Barton
TITLE OF INVENTION: Polypeptide Cleavage Process
FILE REFERENCE: 1627.026M01
CURRENT APPLICATION NUMBER: PCT/US03/16468A
CURRENT FILING DATE: 2003-05-23
PRIOR APPLICATION NUMBER: US 60/383,488
NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 17
LENGTH: 102
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Artificial Construct
PCT-US03-16468A-17

Query Match 100.0%; Score 215; DB 1; Length 102;
Best Local Similarity 100.0%; Pred. No. 6.8e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAIPTNSYRKVLGQLSARKLLQDIMSRQGESNQGARGARL 44

Db 57 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 100
|||||
RESULT 28
PCT-US03-16644A-26
; Sequence 26, Application PC/TUS0316644A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Cryer, Kirk E.
; APPLICANT: Strydom, Daniel
; APPLICANT: Seo, Jin Seog
; APPLICANT: Holmquist, Barton
; APPLICANT: Wagner, Fred. W.
; TITLE OF INVENTION: Peptide Derivatization Process
; FILE REFERENCE: 1627.016M01
; CURRENT APPLICATION NUMBER: PCT/US03/16644A
; PRIOR FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,364
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 26
; LENGTH: 102
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic GRF chimeric protein
PCT-US03-16644A-26
Query Match 100.0%; Score 215; DB 1; Length 102;
Best Local Similarity 100.0%; Pred. No. 6.8e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 44
|||||
Db 57 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 100
|||||
RESULT 29
PCT-US03-16648A-10
; Sequence 10, Application PC/TUS0316648A
; GENERAL INFORMATION:
; APPLICANT: Restoragen Inc.
; APPLICANT: Holmquist, Barton
; APPLICANT: Strydom, Daniel
; APPLICANT: Gensalk, X.
; APPLICANT: Cryer, R.
; TITLE OF INVENTION: Peptide Amidation Process
; FILE REFERENCE: 1627.012M01
; CURRENT APPLICATION NUMBER: PCT/US03/16648A
; PRIOR FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/383,362
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: A synthetic peptide sequence of the GRF chimeric
; OTHER INFORMATION: protein
PCT-US03-16648A-10
Query Match 100.0%; Score 215; DB 1; Length 105;
Best Local Similarity 100.0%; Pred. No. 6.9e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 44
|||||
Db 57 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 100
|||||

RESULT 30
PCT-US03-38193-4480
; Sequence 4480, Application PC/TUS0338193
; GENERAL INFORMATION:
; APPLICANT: Aziz, Nataasha
; APPLICANT: Ginsburg, Wendy M.
; APPLICANT: Zlotnick, Albert
; TITLE OF INVENTION: Methods of Diagnosis of Soft Tissue Sarcoma, Compositions &
; FILE REFERENCE: 05882.0193.00PC00
; CURRENT APPLICATION NUMBER: PCT/US03/38193
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: 60/429,739
; NUMBER OF SEQ ID NOS: 8393
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 4480
; LENGTH: 108
; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US03-38193-4480
Query Match 100.0%; Score 215; DB 1; Length 108;
Best Local Similarity 100.0%; Pred. No. 7e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 44
|||||
Db 32 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 75
|||||
RESULT 31
US-10-723-860-4480
; Sequence 4480, Application US/10723860
; GENERAL INFORMATION:
; APPLICANT: Aziz, Nataasha
; APPLICANT: Ginsburg, Wendy M.
; APPLICANT: Zlotnick, Albert
; TITLE OF INVENTION: Methods of Diagnosis of Soft Tissue Sarcoma, Compositions &
; FILE REFERENCE: 05882.0193.NPUS01
; CURRENT APPLICATION NUMBER: US/10/723,860
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: 60/429,739
; NUMBER OF SEQ ID NOS: 8393
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 4480
; LENGTH: 108
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-723-860-4480
Query Match 100.0%; Score 215; DB 6; Length 108;
Best Local Similarity 100.0%; Pred. No. 7e-16;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 44
|||||
Db 32 YADAIFTNSYRKVLGQLSARKLLQDIMSRQGESNÖERGARL 75
|||||
Search completed: February 11, 2004, 11:55:47
Job time : 23 secs

GenCore version 5.1.6
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OM protein - protein search, using SW model

Run on: February 11, 2004, 11:48:23 ; Search time 22 Seconds
(without alignments)
84.622 Million cell updates/sec

Title: 09-786639
Perfect score: 215
Sequence: 1 yadelftnsykvigqlaar.....dimarggseengergararl 44

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 75 summaries

Database : Issued Patents AA:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	215	100.0	44	1	US-07-701-414A-1
2	215	100.0	44	1	US-07-924-054-9
3	215	100.0	44	1	US-08-095-162-16
4	215	100.0	44	1	US-08-095-162-25
5	215	100.0	44	1	US-08-379-039C-3
6	215	100.0	44	1	US-08-062-472B-32
7	215	100.0	44	1	US-08-410-353-1
8	215	100.0	44	1	US-08-470-220A-16
9	215	100.0	44	1	US-08-470-220A-25
10	215	100.0	44	1	US-08-519-180-4
11	215	100.0	44	2	US-08-661-329A-1
12	215	100.0	44	2	US-08-493-594-1
13	215	100.0	44	2	US-08-685-357B-1
14	215	100.0	44	2	US-08-702-114-1
15	215	100.0	44	2	US-08-702-113-1
16	215	100.0	44	2	US-08-708-620A-1
17	215	100.0	44	2	US-08-459-400-3
18	215	100.0	44	3	US-09-148-982-1
19	215	100.0	44	3	US-08-967-374-16
20	215	100.0	44	3	US-08-967-374-25
21	215	100.0	44	3	US-09-135-738-1
22	215	100.0	44	4	US-09-505-991-16
23	215	100.0	44	4	US-09-505-991-25
24	215	100.0	44	4	US-09-389-486-1
25	215	100.0	44	5	PCT-US92-03965-1
26	215	100.0	44	5	PCT-US95-15800-20
27	215	100.0	45	1	US-08-095-162-17

28	215	100.0	45	1	US-08-095-162-21	Sequence 21, Appl
29	215	100.0	45	1	US-08-095-162-26	Sequence 26, Appl
30	215	100.0	45	1	US-08-470-220A-17	Sequence 17, Appl
31	215	100.0	45	1	US-08-470-220A-21	Sequence 21, Appl
32	215	100.0	45	1	US-08-470-220A-26	Sequence 26, Appl
33	215	100.0	45	3	US-08-967-374-17	Sequence 17, Appl
34	215	100.0	45	3	US-08-967-374-21	Sequence 21, Appl
35	215	100.0	45	3	US-08-967-374-26	Sequence 26, Appl
36	215	100.0	45	4	US-09-505-991-17	Sequence 17, Appl
37	215	100.0	45	4	US-09-505-991-21	Sequence 21, Appl
38	215	100.0	45	4	US-09-505-991-26	Sequence 26, Appl
39	215	100.0	45	5	PCT-US95-15800-31	Sequence 31, Appl
40	215	100.0	46	3	US-08-927-128-15	Sequence 15, Appl
41	212	98.6	44	1	US-07-776-272-24	Sequence 24, Appl
42	211	98.1	44	2	US-08-899-324-2	Sequence 2, Appl
43	211	98.1	44	2	US-08-807-263-1	Sequence 1, Appl
44	211	98.1	44	3	US-08-329-892B-2	Sequence 2, Appl
45	211	98.1	44	4	US-09-260-846-19	Sequence 19, Appl
46	209	97.2	44	2	US-08-685-357B-5	Sequence 5, Appl
47	208	96.7	44	2	US-08-685-357B-4	Sequence 4, Appl
48	206	95.8	42	1	US-08-095-162-24	Sequence 24, Appl
49	206	95.8	42	1	US-08-470-220A-24	Sequence 24, Appl
50	206	95.8	42	3	US-08-967-374-24	Sequence 24, Appl
51	206	95.8	42	4	US-09-505-991-24	Sequence 24, Appl
52	202	94.0	41	1	US-08-095-162-7	Sequence 7, Appl
53	202	94.0	41	1	US-08-470-220A-7	Sequence 7, Appl
54	202	94.0	41	3	US-08-967-374-7	Sequence 7, Appl
55	202	94.0	41	4	US-09-505-991-7	Sequence 7, Appl
56	202	94.0	41	5	PCT-US95-15800-23	Sequence 23, Appl
57	202	94.0	44	1	US-08-062-472B-31	Sequence 31, Appl
58	202	94.0	44	4	US-09-122-171D-6	Sequence 6, Appl
59	197	91.6	40	1	US-08-410-353-2	Sequence 2, Appl
60	197	91.6	40	2	US-08-493-594-2	Sequence 2, Appl
61	197	91.6	40	4	US-09-122-171D-10	Sequence 10, Appl
62	197	91.6	41	1	US-08-410-353-8	Sequence 8, Appl
63	197	91.6	42	1	US-08-410-353-8	Sequence 8, Appl
64	196	91.2	44	1	US-08-218-608-12	Sequence 12, Appl
65	196	91.2	44	1	US-08-062-472B-29	Sequence 29, Appl
66	196	91.2	44	1	US-08-062-472B-30	Sequence 30, Appl
67	196	91.2	44	4	US-09-122-171D-5	Sequence 5, Appl
68	196	91.2	44	4	US-09-122-171D-9	Sequence 9, Appl
69	195	90.7	44	1	US-08-062-472B-28	Sequence 28, Appl
70	195	90.7	44	4	US-09-122-171D-7	Sequence 7, Appl
71	193	89.8	39	1	US-08-410-353-3	Sequence 3, Appl
72	188	87.4	40	4	US-09-624-268B-14	Sequence 14, Appl
73	185	84.2	45	1	US-08-442-029-6	Sequence 6, Appl
74	175	81.4	44	4	US-09-122-171D-11	Sequence 11, Appl
75	175	81.4	75	1	US-07-934-017-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-07-701-414A-1
; Sequence 1, Application US/07701414A
; Patent No. 5262519
; GENERAL INFORMATION:
; APPLICANT: Rivier, Jean E F
; APPLICANT: Vale Jr., Wylie W
; TITLE OF INVENTION: GRF ANALOGS XI
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Fitch, Even, Tabin & Flannery
; STREET: 135 South LaSalle Street, Suite 900
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60603
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/701,414A
FILING DATE: 19910515
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Schumann, James J.
REGISTRATION NUMBER: 20,856
REFERENCE/DOCKET NUMBER: 51337
TELEPHONE: 619-552-1311
TELEFAX: 619-552-0095
TELEX: 20 6566 PATIAM CGO
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-07-701-414A-1

Query Match 100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQOGESNORRGARLL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQOGESNORRGARLL 44

RESULT 2
US-07-924-054-9
Sequence 9, Application US/07924054
Patent No. 5486472
GENERAL INFORMATION:
APPLICANT: SUZUKI, No. 5486472unhiro
APPLICANT: KITADA, Chieko
APPLICANT: TSUDA, Masao
TITLE OF INVENTION: ANTIBODY TO PACAP AND USE THEREOF
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN, DIKE, BRONSTEIN, ROBERTSE
STREET: 130 Water Street
CITY: Boston
STATE: Massachusetts
COUNTRY: US
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/924,054
FILING DATE: 19920903
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, David S
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 40805
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)523-3400
TELEFAX: (617)523-6440
TELEX: 200291 STRB UR
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: AMINO ACID

TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-924-054-9

Query Match 100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQOGESNORRGARLL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQOGESNORRGARLL 44

RESULT 3
US-08-095-162-16
Sequence 16, Application US/08095162
Patent No. 5512459
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 551245west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)
US-08-095-162-16

Query Match 100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQOGESNORRGARLL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQOGESNORRGARLL 44

RESULT 4
US-08-095-162-25
Sequence 25, Application US/08095162
Patent No. 5512459
GENERAL INFORMATION:

```

; APPLICANT: Wagner, Fred W.
; APPLICANT: Scout, Jay
; APPLICANT: Henriksen, Dennis
; APPLICANT: Partridge, Bruce
; APPLICANT: Manning, Shane
; TITLE OF INVENTION: Enzymatic Method for Modification of
; TITLE OF INVENTION: Recombinant Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 No. 551455west Center
; CITY: Minneapolis
; STATE: MN
; COUNTRY: USA
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/095,162
; FILING DATE: 20-JUL-1993
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Nelson, Albin J.
; REGISTRATION NUMBER: 28,659
; REFERENCE/DOCKET NUMBER: 8648.32-US01
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612-332-5300
; TELEFAX: 612-332-5081
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; IMMEDIATE SOURCE:
; CLONE: GRP (1-41)-Ala-Arg-Leu
; US-08-095-162-25

Query Match      100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 YADAIFTNSYRKVLGQLSARKLQDIMSRQGESNQGARGARL 44
Db      1 YADAIFTNSYRKVLGQLSARKLQDIMSRQGESNQGARGARL 44

RESULT 5
US-08-379-039C-3
; Sequence 3, Application US/08379039C
; Patent No. 5648462
; GENERAL INFORMATION:
; APPLICANT: Punakoshi, Susumu
; APPLICANT: Fukuda, Hiroyuki
; TITLE OF INVENTION: Peptide Purification Method Using
; TITLE OF INVENTION: No. 5648462el Linker and Solid-Phase Ligand (as amended)
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Millita Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
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; APPLICATION NUMBER: US/08/379,039C
; FILING DATE: 27-JAN-1995
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Carroll, Alice O.
; REGISTRATION NUMBER: 33,542
; REFERENCE/DOCKET NUMBER: NML90-01A
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 861-6240
; TELEFAX: (617) 861-9540
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-379-039C-3

Query Match      100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 YADAIFTNSYRKVLGQLSARKLQDIMSRQGESNQGARGARL 44
Db      1 YADAIFTNSYRKVLGQLSARKLQDIMSRQGESNQGARGARL 44

RESULT 6
US-08-062-472B-32
; Sequence 32, Application US/08062472B
; Patent No. 5695954
; GENERAL INFORMATION:
; APPLICANT: Sherwood, Nancy G M
; APPLICANT: Parker, David B
; APPLICANT: McRory, John E
; APPLICANT: Lescheld, David W
; TITLE OF INVENTION: DNA ENCODING TWO FISH NEUROPEPTIDES
; NUMBER OF SEQUENCES: 49
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: KLARQUIST, SPARKMAN, CAMPBELL, LEIGH &
; ADDRESS: WHINSTON, LLP
; STREET: ONE WORLD TRADE CENTER, SUITE 1600, 121 S. W.
; STREET: SALMON STREET
; CITY: PORTLAND
; STATE: OREGON
; COUNTRY: USA
; ZIP: 97204-2988
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/062,472B
; FILING DATE: 14-MAY-1993
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: POLLEY, RICHARD J
; REGISTRATION NUMBER: 28107
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (503) 226-7391
; TELEFAX: (503) 228-9446
; INFORMATION FOR SEQ ID NO: 32:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 44 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-062-472B-32

Query Match      100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
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;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/470,220A
;; FILING DATE: 06-JUN-1995
;; CLASSIFICATION: 435
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: US 08/095,162
;; FILING DATE: 20-JUL-1993
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Nelson, Albin J.
;; REGISTRATION NUMBER: 28,659
;; REFERENCE/DOCKET NUMBER: 8648,32-US01
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 612-332-5300
;; TELEFAX: 612-332-9081
;; INFORMATION FOR SEQ ID NO: 25:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 44 amino acids
;; TYPE: amino acid
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
;; IMMEDIATE SOURCE:
;; CLONE: GRP (1-41)-Ala-Arg-Leu
;; US-08-470-220A-25

Query Match 100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4,2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROQGESNQRGAPARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROQGESNQRGAPARL 44

RESULT 10
US-08-519-180-4
;; Sequence 4, Application US/08519180
;; Patent No. 5770570
;; GENERAL INFORMATION:
;; APPLICANT: PAUL, SUDHIR
;; APPLICANT: YASUKO, NODA
;; APPLICANT: ISRAEL, RUBINSTEIN
;; TITLE OF INVENTION: A METHOD OF DELIVERING A VASOACTIVE
;; TITLE OF INVENTION: INTESTINAL POLYPEPTIDE, AN ENCAPSULATED VASOACTIVE
;; TITLE OF INVENTION: INTESTINAL POLYPEPTIDE, AND A METHOD OF MAKING THE
;; TITLE OF INVENTION: ENCAPSULATED VASOACTIVE INTESTINAL POLYPEPTIDE
;; NUMBER OF SEQUENCES: 13
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
;; STREET: 1100 NEW YORK AVENUE, N.W.
;; CITY: WASHINGTON
;; STATE: D.C.
;; COUNTRY: USA
;; ZIP: 20005
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: floppy disk
;; COMPUTER: IBM PC compatible
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: Patentin Release #1.0, Version #1.25
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/519,180
;; FILING DATE: 25-AUG-1995
;; CLASSIFICATION: 514
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: US 08/224488
;; FILING DATE: 07-APR-1994
;; ATTORNEY/AGENT INFORMATION:
;; NAME: SEMINAUER, JEFFREY A.
;; REGISTRATION NUMBER: 31,933
;; REFERENCE/DOCKET NUMBER: 4464/98971
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 202-861-3000
;; TELEFAX: 202-822-0944
;; TELEX: 6714627 CUSH

;; INFORMATION FOR SEQ ID NO: 4:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 44 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
;; US-08-519-180-4

Query Match 100.0%; Score 215; DB 1; Length 44;
Best Local Similarity 100.0%; Pred. No. 4,2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROQGESNQRGAPARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROQGESNQRGAPARL 44

RESULT 11
US-08-661-329A-1
;; Sequence 1, Application US/08661329A
;; Patent No. 5817627
;; GENERAL INFORMATION:
;; APPLICANT: BRAZEAU, Paul
;; APPLICANT: ABRIBAT, Thierry
;; APPLICANT: IBEA, Michel
;; TITLE OF INVENTION: LONG-ACTING GALENICAL FORMULATION FOR
;; TITLE OF INVENTION: GRP PEPTIDES
;; NUMBER OF SEQUENCES: 2
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Klabber & Jackson
;; STREET: Continental Plaza, 411 Hackensack Avenue
;; CITY: Hackensack
;; STATE: New Jersey
;; COUNTRY: U.S.A.
;; ZIP: 07601
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: floppy disk
;; COMPUTER: IBM PC compatible
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: Patentin Release #1.0, Version #1.30
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/661,329A
;; FILING DATE: 14-JUN-1996
;; CLASSIFICATION: 514
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Jackson, David A.
;; REGISTRATION NUMBER: 26,742
;; REFERENCE/DOCKET NUMBER: 1109-1-004
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (201)487-5800
;; TELEFAX: (201)343-1684
;; INFORMATION FOR SEQ ID NO: 1:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 44 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
;; HYPOTHETICAL: NO
;; US-08-661-329A-1

Query Match 100.0%; Score 215; DB 2; Length 44;
Best Local Similarity 100.0%; Pred. No. 4,2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROQGESNQRGAPARL 44
Db 1 YADAIFTNSYRKVLGQLSARKLLQDIMSROQGESNQRGAPARL 44

RESULT 12
US-08-493-594-1

Sequence 1, Application US/08493594
Patent No. 5846936
GENERAL INFORMATION:
APPLICANT: Felix, Arthur M
APPLICANT: Helmer, Edgar P
TITLE OF INVENTION: GROWTH HORMONE RELEASING FACTOR ANALOGS
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann-La Roche Inc.
STREET: 340 Kingsland Street
CITY: Nutley
STATE: New Jersey
COUNTRY: United States of America
ZIP: 07110-1199
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/493,594
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/274,656
FILING DATE:
APPLICATION NUMBER: US/08/154,579
FILING DATE:
APPLICATION NUMBER: US/07/993,489
FILING DATE:
APPLICATION NUMBER: US/07/682,835
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Kass, Alan P
REGISTRATION NUMBER: 32142
REFERENCE/DOCKET NUMBER: 8390
TELECOMMUNICATION INFORMATION:
TELEPHONE: (201)235-4205
TELEFAX: (201)235-3500
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-493-594-1

Query Match 100.0%; Score 215; DB 2; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQOGESNQRGARARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQOGESNQRGARARL 44

RESULT 13
US-08-685-357B-1
Sequence 1, Application US/08685357B
Patent No. 5854216
GENERAL INFORMATION:
APPLICANT: GAUDREAU, Pierrette
TITLE OF INVENTION: MARKER FOR GROWTH HORMONE-RELEASING
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kevin M. Farrell, P.C.
STREET: 12 Riverwood Drive - P.O. Box 999
CITY: York Harbor
STATE: ME
COUNTRY: U.S.A.
ZIP: 03911
COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/685,357B
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/312,244
FILING DATE: 23-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: FARRELL, Kevin M.
REGISTRATION NUMBER: 35,505
TELECOMMUNICATION INFORMATION:
TELEPHONE: (207) 363-0558
TELEFAX: (207) 363-0528
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-08-685-357B-1

Query Match 100.0%; Score 215; DB 2; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQOGESNQRGARARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLDQIMSRQOGESNQRGARARL 44

RESULT 14
US-08-702-114-1
Sequence 1, Application US/08702114
Patent No. 5861379
GENERAL INFORMATION:
APPLICANT: BRAZEAU, Paul
APPLICANT: ABRIBAT, Thierry
TITLE OF INVENTION: CHIMERIC FATTY BODY-PRO-GRP ANALOGS WITH
INCREASED BIOLOGICAL POTENCY
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Birch, Stewart, Kolasch and Birch
STREET: P.O. Box 747
CITY: Falls Church
STATE: Virginia
COUNTRY: U.S.A.
ZIP: 22040-0747
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/702,114
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/453,067
FILING DATE: 26-MAY-1995
APPLICATION NUMBER: US 08/651,645
FILING DATE: 22-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: MURPHY, Gerald M.
REGISTRATION NUMBER: 28,977
TELECOMMUNICATION INFORMATION:

TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
TELEX: 248345
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-08-702-114-1

Query Match 100.0%; Score 215; DB 2; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARLLDIMSROGSENGERGARL 44
Db 1 YADAFITNSYRKVLGQLSARLLDIMSROGSENGERGARL 44

RESULT 15
US-08-702-113-1
Sequence 1, Application US/08702113
Patent No. 5939386
GENERAL INFORMATION:
APPLICANT: BRAZEU, Paul
APPLICANT: ABRIBAT, Thierry
APPLICANT: IBEA, Michel
TITLE OF INVENTION: CHIMERIC FATY BODY-PRO-GRP(1-29) ANALOGS WITH
TITLE OF INVENTION: INCREASED BIOLOGICAL POTENCY
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Birch, Stewart, Kolasch and Birch
STREET: P.O. Box 747
CITY: Falls Church
STATE: Virginia
COUNTRY: U.S.A.
ZIP: 22040-0747
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/702,113
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/453,067
FILING DATE: 26-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/651,645
FILING DATE: 22-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: MORPHY, Gerald M.
REGISTRATION NUMBER: 28,977
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
TELEX: 248345
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-08-702-113-1

Query Match 100.0%; Score 215; DB 2; Length 44;

Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARLLDIMSROGSENGERGARL 44
Db 1 YADAFITNSYRKVLGQLSARLLDIMSROGSENGERGARL 44

RESULT 16
US-08-708-620A-1
Sequence 1, Application US/08708620A
Patent No. 5939387
GENERAL INFORMATION:
APPLICANT: Broderick, Carol L.
APPLICANT: Dimarchi, Richard D.
APPLICANT: Heiman, Mark L.
APPLICANT: Stramm, Lawrence E.
TITLE OF INVENTION: Method of Treating Insulin Resistance
TITLE OF INVENTION: Method of Treating Insulin Resistance
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company
STREET: Lilly Corporate Center/Patent Division
CITY: Indianapolis
STATE: Indiana
COUNTRY: U.S.A.
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/708,620A
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Maciak, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: P-10243
TELECOMMUNICATION INFORMATION:
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-708-620A-1

Query Match 100.0%; Score 215; DB 2; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARLLDIMSROGSENGERGARL 44
Db 1 YADAFITNSYRKVLGQLSARLLDIMSROGSENGERGARL 44

RESULT 17
US-08-459-400-3
Sequence 3, Application US/08459400
Patent No. 5994588
GENERAL INFORMATION:
APPLICANT: Funakoshi, Susumu
APPLICANT: Fukuda, Hiroyuki
TITLE OF INVENTION: Peptide Purification Method Using
TITLE OF INVENTION: No. 5994588el Linker and Solid-Phase Ligand (as amended)
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
STREET: Two Millitia Drive

CITY: Lexington
STATE: Massachusetts
COUNTRY: USA
ZIP: 02173
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/459,400
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/379,039
FILING DATE: 27-JAN-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carroll, Alice O.
REGISTRATION NUMBER: 33,542
REFERENCE/DOCKET NUMBER: NML90-01A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
TELEFAX: (617) 861-9540
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-459-400-3

Query Match 100.0%; Score 215; DB 2; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

CY 1 YADAFNYSYRKVIGQLSARLKLQDIMSROGSESNQERGARL 44
DB 1 YADAFNYSYRKVIGQLSARLKLQDIMSROGSESNQERGARL 44

RESULT 18
US-09-148-982-1
Sequence 1, Application US/09148982
Patent No. 6020311
GENERAL INFORMATION:
APPLICANT: BRAZEAU, Paul
APPLICANT: GRAVEL, Denis
TITLE OF INVENTION: GRP ANALOGS WITH INCREASED BIOLOGICAL POTENCY
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan
STREET: Suite 700, 1200 G Street, N.W.
CITY: Washington
STATE: D.C.
COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/148,982
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/453,067
FILING DATE: 26-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/651,645
FILING DATE: 22-MAY-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/702,113

FILING DATE: 23-AUG-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/702,114
FILING DATE: 23-AUG-1996
ATTORNEY/AGENT INFORMATION:
NAME: EVANS, Joseph D.
REGISTRATION NUMBER: 31,824
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
TELEFAX: (202) 628-8844
TELEX:
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-09-148-982-1

Query Match 100.0%; Score 215; DB 3; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

CY 1 YADAFNYSYRKVIGQLSARLKLQDIMSROGSESNQERGARL 44
DB 1 YADAFNYSYRKVIGQLSARLKLQDIMSROGSESNQERGARL 44

RESULT 19
US-08-967-374-16
Sequence 16, Application US/08967374
Patent No. 6037143
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Parridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid

TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)
US-08-967-374-16

Query Match 100.0%; Score 215; DB 3; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLDIMSROGSESNQERGARRL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROGSESNQERGARRL 44

RESULT 20
US-08-967-374-25
Sequence 25, Application US/08967374
Patent No. 6037143

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967.374
FILING DATE:

CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520.485
FILING DATE: 29-AUG-1995

ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35.093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid

TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu
US-08-967-374-25

Query Match 100.0%; Score 215; DB 3; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLDIMSROGSESNQERGARRL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROGSESNQERGARRL 44

RESULT 21
US-09-135-738-1
Sequence 1, Application US/09135738
Patent No. 6194384

GENERAL INFORMATION:
APPLICANT: BRAZEAU, Paul
APPLICANT: GRAVEL, Denis
TITLE OF INVENTION: LONG-ACTING GALENICAL FORMULATION
TITLE OF INVENTION: FOR GRF PEPTIDES
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: KLAUBER & JACKSON
STREET: Continental Plaza, 411 Hackensack Avenue
CITY: Hackensack
STATE: N.J.
COUNTRY: U.S.A.
ZIP: 07601

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/135.738
FILING DATE:

CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/661.329
FILING DATE: June 14, 1996

ATTORNEY/AGENT INFORMATION:
NAME: JACKSON, David A.
REGISTRATION NUMBER: 26.742
TELECOMMUNICATION INFORMATION:
TELEPHONE: (201) 487-5800
TELEFAX: (201) 343-1684
TELEX: 133521

INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid

STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
US-09-135-738-1

Query Match 100.0%; Score 215; DB 3; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLDIMSROGSESNQERGARRL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROGSESNQERGARRL 44

RESULT 22
US-09-505-991-16
Sequence 16, Application US/09505991
Patent No. 6403361

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane

TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis

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STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USD1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)
SEQUENCE DESCRIPTION: SEQ ID NO: 16:
US-09-505-991-16

Query Match      100.0%; Score 215; DB 4; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNQRGARARL 44
Db      1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNQRGARARL 44

RESULT 23
US-09-505-991-25
; Sequence 25, Application US/09505991
; Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
Scout, Jay
Henriksen, Dennis
Partridge, Bruce
Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
```

```
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USD1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Ieu
SEQUENCE DESCRIPTION: SEQ ID NO: 25:
US-09-505-991-25

Query Match      100.0%; Score 215; DB 4; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNQRGARARL 44
Db      1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNQRGARARL 44

RESULT 24
US-09-389-486-1
; Sequence 1, Application US/09389486
; Patent No. 6458764
GENERAL INFORMATION:
APPLICANT: GRAVEL, Denis
APPLICANT: HABI, Abdelkrim
APPLICANT: BRAZEAU, Paul
TITLE OF INVENTION: GRF ANALOGS WITH INCREASED BIOLOGICAL
FILE REFERENCE: 12411-SUS-2-1-1 FC/
CURRENT APPLICATION NUMBER: US/09/389,486
CURRENT FILING DATE: 1999-09-03
EARLIER APPLICATION NUMBER: US 08/453,067
EARLIER FILING DATE: 1995-05-26
EARLIER APPLICATION NUMBER: US 08/651,645
EARLIER FILING DATE: 1996-05-22
EARLIER APPLICATION NUMBER: US 08/702,114
EARLIER FILING DATE: 1996-08-23
EARLIER APPLICATION NUMBER: US 08/702,113
EARLIER FILING DATE: 1996-08-23
EARLIER APPLICATION NUMBER: US 09/148,982
EARLIER FILING DATE: 1998-09-08
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 1
LENGTH: 44
TYPE: PRT
ORGANISM: Human GRF
US-09-389-486-1

Query Match      100.0%; Score 215; DB 4; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNQRGARARL 44
Db      1 YADAIFTNSYRKVLGQLSARKLLDIDMSRQGESNQRGARARL 44

RESULT 25
PCT-US92-03965-1
; Sequence 1, Application PC/TUS9203965
; GENERAL INFORMATION:
; APPLICANT: Rivier, Jean E F
```

APPLICANT: Vale Jr., Wylie W
TITLE OF INVENTION: GRP ANALOGS XI
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fitch, Even, Tabin & Flannery
STREET: 135 South LaSalle Street, Suite 900
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60603
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/03965
FILING DATE: 19920512
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/701,414
FILING DATE: 15-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: Schumann, James J.
REGISTRATION NUMBER: 20,856
REFERENCE/DOCKET NUMBER: 51337PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-552-1311
TELEFAX: 619-552-0095
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
PCT-US92-03965-1

Query Match 100.0%; Score 215; DB 5; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNORGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNORGARL 44

RESULT 26
PCT-US95-15800-20
Sequence 20, Application PC/TUS9515800
GENERAL INFORMATION:
APPLICANT: Bionebiraska, Inc.
TITLE OF INVENTION: PRODUCTION OF PEPTIDES USING
TITLE OF INVENTION: RECOMBINANT FUSION PROTEIN CONSTRUCTS
NUMBER OF SEQUENCES: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 Northwest Center, 90 S. 7th Street
CITY: Minneapolis
STATE: MN
COUNTRY: U.S.A.
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: PatSEO Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/15800
FILING DATE: 07-DEC-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/350,530
FILING DATE: 07-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.45USWO
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612/332-5300
TELEFAX: 612/332-9081
TELEX:
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 44 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
PCT-US95-15800-20

Query Match 100.0%; Score 215; DB 5; Length 44;
Best Local Similarity 100.0%; Pred. No. 4.2e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNORGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLDIMSROGESNORGARL 44

RESULT 27
US-08-095-162-17
Sequence 17, Application US/08095162
Patent No. 5512459
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Parridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5512459west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear

MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu-Ala
US-08-095-162-17

Query Match 100.0%; Score 215; DB 1; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖERGARRL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖERGARRL 44

RESULT 28
US-08-095-162-21
Sequence 21, Application US/08095162
Patent No. 5512459

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Scout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5512459west Center
CITY: Minneapolis
STATE: MN

COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993

CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28, 659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)-Gly
US-08-095-162-21

Query Match 100.0%; Score 215; DB 1; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖERGARRL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖERGARRL 44

RESULT 29
US-08-095-162-26
Sequence 26, Application US/08095162
Patent No. 5512459

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Scout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5512459west Center
CITY: Minneapolis
STATE: MN

COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993

CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28, 659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu-Gly
US-08-095-162-26

Query Match 100.0%; Score 215; DB 1; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖERGARRL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGESNÖERGARRL 44

RESULT 30
US-08-470-220A-17
Sequence 17, Application US/08470220A
Patent No. 5707826

GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Scout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5707826west Center
CITY: Minneapolis
STATE: MN

COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk


```
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,220A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/095,162
FILING DATE: 20-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
FAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
MOLECULE TYPE: linear
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu-Ala
US-08-470-220A-17
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```
Query Match 100.0%; Score 215; DB 1; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 1 YADAFNYSYRKVLGQLSARLKLQDIMSROGESNBERGAPARL 44
DB 1 YADAFNYSYRKVLGQLSARLKLQDIMSROGESNBERGAPARL 44
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RESULT 31
US-08-470-220A-21
Sequence 21, Application US/08470220A
Patent No. 5707826
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5707826west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,220A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/095,162
FILING DATE: 20-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
```

```
TELEPHONE: 612-332-5300
FAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
MOLECULE TYPE: linear
IMMEDIATE SOURCE:
CLONE: GRF (1-44)-Gly
US-08-470-220A-21
```

```
Query Match 100.0%; Score 215; DB 1; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 YADAFNYSYRKVLGQLSARLKLQDIMSROGESNBERGAPARL 44
DB 1 YADAFNYSYRKVLGQLSARLKLQDIMSROGESNBERGAPARL 44
```

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RESULT 32
US-08-470-220A-26
Sequence 26, Application US/08470220A
Patent No. 5707826
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5707826west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,220A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/095,162
FILING DATE: 20-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
FAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
MOLECULE TYPE: linear
IMMEDIATE SOURCE:
CLONE: GRF (1-41) Ala-Arg-Leu-Gly
US-08-470-220A-26
```

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGGSNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGGSNOERGARL 44

RESULT 33

US-08-967-374-17
Sequence 17, Application US/08967374
Patent No. 6037143
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Scout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu-Ala

Query Match 100.0%; Score 215; DB 3; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGGSNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGGSNOERGARL 44

RESULT 34

US-08-967-374-21
Sequence 21, Application US/08967374
Patent No. 6037143
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Scout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce

APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)-Gly

US-08-967-374-21

Query Match 100.0%; Score 215; DB 3; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGGSNOERGARL 44
Db 1 YADAFITNSYRKVLGQLSARKLLQDIMSROGGSNOERGARL 44

RESULT 35

US-08-967-374-26
Sequence 26, Application US/08967374
Patent No. 6037143
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Scout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41) Ala-Arg-Leu-Gly
US-08-967-374-26

Query Match 100.0%; Score 215; DB 3; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARKLLDIMSROOGESNQRGARARL 44
Db 1 YADAIPTNSYRKVLGQLSARKLLDIMSROOGESNQRGARARL 44

RESULT 36
US-09-505-991-17
Sequence 17, Application US/09505991
Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
Stout, Jay
Henriksen, Dennis
Partridge, Bruce
Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-41)-Ala-Arg-Leu-Ala
SEQUENCE DESCRIPTION: SEQ ID NO: 17:
US-09-505-991-17

Query Match 100.0%; Score 215; DB 4; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YADAIPTNSYRKVLGQLSARKLLDIMSROOGESNQRGARARL 44
Db 1 YADAIPTNSYRKVLGQLSARKLLDIMSROOGESNQRGARARL 44

RESULT 37
US-09-505-991-21
Sequence 21, Application US/09505991
Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
Stout, Jay
Henriksen, Dennis
Partridge, Bruce
Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GRF (1-44)-Gly
SEQUENCE DESCRIPTION: SEQ ID NO: 21:
US-09-505-991-21

Query Match 100.0%; Score 215; DB 4; Length 45;
Best Local Similarity 100.0%; Pred. No. 4.3e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44
DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

RESULT 38

US-09-505-991-26
Sequence 26, Application US/09505991
Patent No. 6403361

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.

SCOUT, Jay

Henriksen, Dennis

Partidge, Bruce

Manning, Shane

TITLE OF INVENTION: Recombinant Polypeptides

NUMBER OF SEQUENCES: 26

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould

STREET: 3100 No. 6403361west Center

CITY: Minneapolis

STATE: MN

COUNTRY: USA

ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/505,991

FILING DATE: 17-Feb-2000

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/520,485

FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Carter, Charles G.

REGISTRATION NUMBER: 35,093

REFERENCE/DOCKET NUMBER: 8648.32-US01

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300

TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 26:

SEQUENCE CHARACTERISTICS:

LENGTH: 45 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

IMMEDIATE SOURCE:

CLONE: GRF (1-41) Ala-Arg-Leu-Gly

SEQUENCE DESCRIPTION: SEQ ID NO: 26:

US-09-505-991-26

Query Match 100.0%; Score 215; DB 4; Length 45;

Best Local Similarity 100.0%; Pred. No. 4.3e-23;

Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

RESULT 39

PCT-US95-15800-31

Sequence 31, Application PC/TUS9515800

GENERAL INFORMATION:

APPLICANT: Bionbraska, Inc.

TITLE OF INVENTION: PRODUCTION OF PEPTIDES USING

TITLE OF INVENTION: RECOMBINANT FUSION PROTEIN CONSTRUCTS

NUMBER OF SEQUENCES: 33

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould

STREET: 3100 Norwest Center, 90 S. 7th Street

CITY: Minneapolis

STATE: MN

COUNTRY: U.S.A.

ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible

OPERATING SYSTEM: DOS

SOFTWARE: FacsEO Version 1.5

CURRENT APPLICATION DATA:

APPLICATION NUMBER: PCT/US95/15800

FILING DATE: 07-DEC-1995

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/350,530

FILING DATE: 07-DEC-1994

ATTORNEY/AGENT INFORMATION:

NAME: Carter, Charles G.

REGISTRATION NUMBER: 35,093

REFERENCE/DOCKET NUMBER: 8648.45USWO

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612/332-5300

TELEFAX: 612/332-9081

INFORMATION FOR SEQ ID NO: 31:

SEQUENCE CHARACTERISTICS:

LENGTH: 45 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

HYPOTHETICAL: NO

ANTI-SENSE: NO

FRAGMENT TYPE: internal

ORIGINAL SOURCE:

PCT-US95-15800-31

Query Match 100.0%; Score 215; DB 5; Length 45;

Best Local Similarity 100.0%; Pred. No. 4.3e-23;

Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

DB 1 YADAFITNSYRKVLGQLSARKLLQDIMSRQGESNQRGARARL 44

RESULT 40

US-08-927-128-15

Sequence 15, Application US/08927128

Patent No. 6127150

GENERAL INFORMATION:

APPLICANT: Coolidge, Thomas

APPLICANT: Wagner, Fred

APPLICANT: ven Heeke, Gino

APPLICANT: Schuster, Sheldon

APPLICANT: Stout, Jay

APPLICANT: Wylie, Dwane

TITLE OF INVENTION: PURIFICATION DIRECTED CLOSING OF PEPTIDES

NUMBER OF SEQUENCES: 28

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould

STREET: 3100 No. 6127150west Center, 90 S. 7th Street

CITY: Minneapolis

STATE: MN

COUNTRY: U.S.A.

ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible

OPERATING SYSTEM: DOS

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; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/927,128
; FILING DATE: 05-SEP-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/680,004
; FILING DATE: 15-JUL-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Carter, Charles G
; REGISTRATION NUMBER: 35,093
; REFERENCE/DOCKET NUMBER: 8648.2USD1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 612/332-5300
; TELEFAX: 612/332-9081
; TELEX:
; INFORMATION FOR SEQ ID NO: 15:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 46 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHEICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; US-08-927-128-15

Query Match 100.0%; Score 215; DB 3; Length 46;
Best Local Similarity 100.0%; Pred. No. 4.4e-23;
Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YADAIFTNSYRKVTCGLSARKLLDIPMSRQGESNQRGARARL 44
   |||||
Db 3 YADAIFTNSYRKVTCGLSARKLLDIPMSRQGESNQRGARARL 46
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Search completed: February 11, 2004, 11:52:08
Job time : 23 secs

